

# HELMINTHOLOGICAL ABSTRACTS

*incorporating*  
BIBLIOGRAPHY OF HELMINTHOLOGY  
For the Year 1945.



IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY  
(HELMINTHOLOGY)

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FOR THE YEAR 1945.

Vol. XIV, Part 2 & 3.

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## 61—Acta Medica Scandinavica. Supplementum.

- a. HELANDER, E. V., 1945.—“Über die Magensekretion bei Bothriocephalusträgern.” No. 155, 115 pp.

(61a) Helander has investigated possible changes in gastric secretions in cases of infestation with *Dibothriocephalus latus*, particularly those patients who showed symptoms of severe anaemia resembling cryptogenetic pernicious anaemia. Certain changes in gastric secretions occur within normal limits but the differences of acidity and amount of pepsin in worm carriers are so slight that it is doubtful if the presence of the worm has much if any effect in these directions, for healthy subjects also show variations. Carriers however usually empty the stomach more quickly than non-carriers. The author has been able to show that carriers do not develop the gastric changes associated with pernicious anaemia and any changes that may occur are so slight that they cannot be used in interpreting the effects of the presence of *D. latus* in man.

P.A.C.

## 62—Acta Tropica. Basel.

- a. BAER, J. G., 1945.—“La sparganose oculaire.” 2 (2), 155-157.

(62a) Baer states that ocular sparganosis, which is confined to the Far East, is fundamentally due to the custom, widespread in Indo-China, of applying split frogs to the eye to cure various eye troubles. There is also involved the capacity for re-encapsulation displayed by the plerocercoid, but this is shared by other species, like *Diphyllbothrium erinacei-europei* which extends from the Far East to Europe, and, whilst ocular transmission to a warm-blooded host can be readily achieved experimentally with this species, ocular sparganosis does not occur except where the custom exists. The plerocercoid of *D. latum* usually re-encapsulates only in cold-blooded vertebrates; thus Baer has seen over 1,000 in the peri-intestinal fat of a pike, the location showing that they were secondarily acquired, through swallowing infested perch. Plerocercoids from Coregonus, often listed as *D. latum*, are actually *Triaenophorus crassus*, adult in pike.

B.G.P.

## 63—Agricultural Gazette of New South Wales.

- a. ANON, 1945.—“Diseases of carrots.” 56 (7), 295-298.

(63a) Root-knot in carrot, caused by *Heterodera marioni*, is briefly described and said to be of importance only on sandy soils and during the warmer months.

M.T.F.

## 64—American Heart Journal.

- a. PETERS, J. H., DEXTER, L. & WEISS, S., 1945.—“Clinical and theoretical considerations of involvement of the left side of the heart with echinococcal cysts. A review of the literature, with a report of five new cases, including one observed by the authors.” 29 (2), 143-167.



## 65—American Journal of Clinical Pathology.

- a. GIFFEN, H. K., 1945.—“Schistosomiasis (bilharziasis) and Egyptian splenomegaly.” 15 (1), 10-16.

(65a) Giffen, in this lecture to the American Society of Clinical Pathologists, summarizes the known facts regarding the three schistosome infections of man. He points out that it will now be necessary both in the laboratory and in the clinic to watch for this group of diseases owing to the increase in rapidity of world transport and the return of troops from the tropics.

R.T.L.

## 66—American Journal of Diseases of Children.

- a. EINHORN, N. H., MILLER, J. F. & WHITTIER, L., 1945.—“Intestinal polyparasitism: clinical survey of one hundred and sixty-one cases of infection with multiple intestinal parasites in children.” 69 (6), 350-358.
- b. MILLER, J. F., EINHORN, N. H. & WHITTIER, L., 1945.—“Ancylostomiasis and strongyloidiasis: a clinical survey of seventy-one cases of ancylostomiasis and eleven cases of strongyloidiasis in children.” 69 (6), 359-365.
- c. GETZ, L., 1945.—“Massive infection with *Trichuris trichiura* in children. Report of four cases, with autopsy.” 70 (1), 19-24.

## 67—American Journal of the Medical Sciences.

- a. ENGLEHORN, T. D. & WELLMAN, W. E., 1945.—“Filariasis in soldiers on an island in the South Pacific.” 209 (2), 141-152.
- b. DAVIS, O. T., HARRELL, G. T. & KING, E. S., 1945.—“The effect of simultaneous tuberculous infection on experimental *Trichinella* infestations in guinea pigs.” 209 (6), 758-764.
- c. HODGE, I. G., DENHOFF, E. & VANDER VEER, J. B., 1945.—“Early filariasis (*bancrofti*) in American soldiers.” 210 (2), 207-223.

(67a) The clinical picture of early filariasis attributable to *Wuchereria bancrofti* and based on the study of 127 soldier patients on a South Pacific island, is described. It is characterized by recurrent attacks of illness with transient lymphadenitis, lymphangitis and swelling of the arms or thighs. Microfilariae were not found. *Aedes scutellaris* is believed to be the vector. Filariasis among the natives of the island is briefly described. Of those examined 40% had microfilariae in the blood and 5% had elephantiasis.

J.J.C.B.

(67b) Simultaneous infection of guinea-pigs with *Mycobacterium tuberculosis* and *Trichinella spiralis* resulted in heavier muscle infections of *T. spiralis* larvae than occurred in controls infected with equal numbers of *T. spiralis* alone. The increase was very striking: in some cases the diaphragm contained up to 1,600 times as many larvae as in the non-tuberculous animals. There was no evidence that the degree of tuberculosis was affected. Previous results of skin tests had suggested heavier than normal infestations with *T. spiralis* in patients in sanatoria.

P.A.C.

(67c) The authors outline the criteria on which a clinical diagnosis of early filariasis, due to *W. bancrofti*, can be made, as a result of clinical and laboratory studies on 62 cases all of which had been exposed to infection with *W. bancrofti* on an island in the South Pacific for a period of 364 days. Of 266 soldiers examined only 2 had microfilariae in the peripheral blood. Eight lymph nodes were examined for adult filariae and in one of these a single worm was found which measured about 30 mm. by 0.1 mm. Other laboratory observations include haematological studies and skin tests using an antigen made from a lymph node removed from a patient showing signs of early filariasis. The skin tests were considered positive in 7 out of 11 patients with clinical filariasis whilst 15 controls were negative. The authors are of the opinion that the early manifestations of filariasis are due to an allergen present in, or produced by, living adult filariae and manifest along a lymphatic obstructed by the presence of, or the reaction to, the filariae.

J.J.C.B.



## 68—American Journal of Physiology.

- a. ROCHA e SILVA, M. & GRAÑA, A., 1945.—“Shock produced in dogs by hydatid fluid.” 143 (2), 306–313.
- b. GRAÑA, A. & ROCHA e SILVA, M., 1945.—“Effect of hydatid fluid on histamine content of rabbit blood.” 143 (2), 314–323.

(68a) Rocha e Silva & Graña show that intravenous injection of hydatid fluid into dogs produces shock related to anaphylactic shock. Histamine apparently plays no part in the production of this shock. The causative substance is unknown but it is not affected by boiling the fluid, by dialysis or by treatment with trichloroacetic acid.

P.A.C.

(68b) Intravenous injections of hydatid fluid into rabbits reduces markedly the amount of circulating histamine, but there was no reduction in carotid blood pressure. Injection into non-anaesthetized rabbits produced leucopenia and thrombocytopenia, while in anaesthetized animals there was leukocytosis and a reduction of platelets. The causative factor in hydatid fluid is unaffected by dialysis or by the action of trichloroacetic acid. There seems to be a correlation in rabbits between decrease in circulating histamine and the occurrence of shock. Histamine is apparently carried by platelets not by leucocytes.

P.A.C.

## 69—American Journal of Public Health.

- a. BROWN, H. W., 1945.—“Current problems in filariasis.” 35 (6), 607–613.

(69a) Brown gives a general account of *Filariasis bancrofti*, distinguishing asymptomatic, inflammatory, and obstructive forms, and briefly outlining diagnostic methods and treatment (anthiomaline). The chances of introducing the disease into the U.S.A. by troops returning from the Pacific are considered slight; the former endemic focus in Charleston, South Carolina, has practically disappeared.

B.G.P.

## 70—American Journal of Roentgenology and Radium Therapy.

- a. ZIZMOR, J. & SZUCS, M. M., 1945.—“Echinococcus cyst of the heart.” 53 (1), 15–19.
- b. JAFFE, H. L., 1945.—“Evaluation on roentgen therapy in filariasis.” 53 (5), 483–490.

(70b) Jaffe found that 50 filariasis patients treated locally by intermediate and deep X-ray therapy differed from 50 controls only in showing some reduction in size of enlarged lymph nodes; the frequency, duration and severity of recurrent attacks were not affected.

B.G.P.

## 71—American Journal of Tropical Medicine.

- a. COGGESHALL, L. T., 1945.—“Malaria and filariasis in the returning serviceman.” The ninth Charles Franklin Craig lecture. 25 (3), 177–184.
- b. NEWTON, W. L., WRIGHT, W. H. & PRATT, I., 1945.—“Experiments to determine potential mosquito vectors of *Wuchereria bancrofti* in the continental United States.” 25 (3), 253–261.
- c. LAWTON, A. H., BRADY, F. J., NESS, A. T. & HASKINS, W. T., 1945.—“Tests of mercury and antimony compounds in *Dirofilaria immitis* and *Litomosoides carinii* infections.” 25 (3), 263–269.
- d. CULBERTSON, J. T., ROSE, H. M. & OLIVER-GONZÁLEZ, J., 1945.—“Chemotherapy of human filariasis by the administration of neostibosan.” 25 (3), 271–274.
- e. WELLER, T. H. & DAMMIN, G. J., 1945.—“The acid-ether centrifugation and the zinc sulfate flotation techniques as methods for the recovery of the eggs of *Schistosoma mansoni*.” 25 (4), 367–374.
- f. BROWN, R. L., 1945.—“Comparative studies on enterozoic parasite ova and cysts concentrating procedures.” 25 (4), 375–376.

(71a) The manifestations of filariasis in servicemen returning from the South Pacific are extremely mild. The principal involvements are lymphoedema, lymphadenopathy and lymphangitis which occur in the following sites and frequencies: neck 2%, upper extremities 30%, lower extremities 9%, scrotum 1%, cords 15% and testes 18%. Microfilariae are very



rarely seen and the blood remains normal except for a very high but transitory eosinophilia which is however a very rare occurrence. The incubation period of the infection, dated from the time of the first possible exposure to the appearance of initial symptoms, averaged 9 months. The likelihood of filariasis becoming endemic in U.S. from these cases is considered very remote.

J.J.C.B.

(71b) The return to the United States of services personnel from areas of endemic filariasis renders the investigation of potential mosquito vectors of *W. bancrofti* in the continental U.S. very desirable. Sixteen indigenous species of mosquitoes were given infective blood meals from human carriers of *W. bancrofti*. There was found to be a considerable range in the infectibility of the different species and an evaluation is made of their potentialities as transmitters of the disease from the point of view of infectibility, relative scarcity or prevalence of the mosquito, biting habits and other factors. It is concluded that *Culex quinquefasciatus*, *Psorophora confinnis* and *Anopheles albimanus* are excellent vectors. *Culex nigripalpus*, *Aedes aegypti* and *Aedes triseriatus* might serve as vectors but have a low infectibility rate. *Aedes sollicitans*, *Aedes taeniorhynchus*, *Aedes vexans* and *Anopheles punctipennis* are apparently incapable of transmitting the infection. In the case of the remaining species inconclusive evidence was obtained. It is believed that there is a significant difference between the infectibility of *Psorophora confinnis* from Puerto Rico (12%) and that of *P. confinnis* from the U.S. (80%), a fact which suggests that this species is separable into two distinct strains or types.

J.J.C.B.

(71c) Treatment with mercury compounds in toxic dosages was ineffective against either the microfilariae or adults of *Dirofilaria immitis*, but trivalent antimony compounds eliminated microfilariae from the blood of 28 out of 29 dogs and either killed the adult worms or affected the uterine contents of living worms recovered at autopsy. Against *Litomosoides carinii* in the cotton-rat, antimony compounds which had been effective in the case of microfilariae of *D. immitis*, failed to have any effect, although given in a similar dose rate. Other antimony compounds, given in dose rates which had been fatal to dogs, were well tolerated by the cotton-rat and killed the adult *L. carinii*.

J.J.C.B.

(71d) The pentavalent antimony preparation, neostibosan, was administered to 30 patients with filariasis (*W. bancrofti*). With one exception, there was a significant fall in the number of microfilariae by six months after the treatment had ended. In seven of the patients, the microfilariae had disappeared completely and in fifteen over 80% of the microfilariae were lost. The tardiness with which the treatment took effect is commented upon and suggests that the drug affects or kills the adult worms while the microfilariae disappear as a natural event independently of the direct effects of the drug.

J.J.C.B.

(71e) Both as a routine diagnostic and as a semi-quantitative technique for the recovery of the eggs of *S. mansoni*, the acid-ether centrifugation method was proved to be superior to the zinc sulphate flotation method. Furthermore, the eggs recovered by the acid-ether techniques were not distorted whilst in many of the zinc sulphate preparations they showed varying degrees of shrinkage and distortion.

J.J.C.B.

(71f) The zinc sulphate centrifugation and the acid-ether method of de Rivas for concentrating helminth eggs and protozoal cysts were compared in tests which included 11 different kinds of helminth eggs. The zinc sulphate method is said to have the advantage of being much less selective, concentrating more nearly uniformly all cysts and eggs, but has the disadvantage of requiring more time.

J.J.C.B.

## 72—American Journal of Veterinary Research.

- a. HABERMANN, R. T., ENZIE, F. D. & FOSTER, A. O., 1945.—“Tests with fluorides, especially sodium fluoride, as anthelmintics for swine.” 6 (20), 131-144.
- b. SEGHETTI, L. & MARSH, H., 1945.—“Control of intestinal parasitism in lambs by winter treatment of ewes, as compared with the use of phenothiazine in salt in summer.” 6 (20), 159-164.



(72a) Habermann et al. have used sodium fluoride, alone and with phenothiazine, and 5 other fluorides as anthelmintics in 151 pigs and small numbers of other animals. Sodium fluoride mixed with, and forming 1% of, the feed was highly efficacious against ascarids and stomach worms, but not against nodular and whipworms. This dose, roughly equivalent to 0.13 gm. per lb. live weight, was not toxic to pigs or to other farm animals. At concentrations of 4% and 5% of the feed the chemical is highly toxic to pigs. The mixture with phenothiazine was unpalatable, and the other fluorides and silicofluorides showed moderate, poor, or no anthelmintic action. Symptoms of fluorine poisoning are vomiting, inappetence, depression, weakness and trembling, associated with haemorrhagic gastroenteritis and congestion of liver and kidneys as postmortem findings.

B.G.P.

(72b) Seghetti & Marsh find that in eastern Montana, where the chief nematodes of sheep are *Ostertagia*, *Nematodirus* and *Trichostrongylus* (rather than *Haemonchus* and *Oesophagostomum*), winter treatments with phenothiazine are not profitable provided the sheep take phenothiazine-salt freely during spring and summer. An experiment is described involving 2 lots of 55 breeding ewes each, with (later) their lambs; one lot was given phenothiazine treatments in January, March and May, and both lots had access to phenothiazine-salt from April. By July the egg-counts were comparable.

B.G.P.

### 73—Annales de Parasitologie Humaine et Comparée.

- a. BRUMPT, E., 1945.—“Étude morphologique et biologique de *Xiphidiocercaria polyxena* n.sp., produisant des infections mortelles chez les larves de culicidés.” (1944-1945), 20 (3/4), 97-117.
- b. BRUMPT, E., 1945.—“Présence, en Corse, d'*Alaria tetracystis* (Gastaldi, 1854) chez la couleuvre à collier (*Tropidonotus natrix*) et cycle évolutif probable de ce parasite.” (1944-1945), 20 (3/4), 118-124.
- c. DOLLFUS, R. P. & CALLOT, J., 1945.—“Études documentaires sur le genre *Metorchis* A. Looss 1899. Observations sur des *Metorchis* récoltés à Richelieu (Indre-et-Loire).” (1944-1945), 20 (3/4), 125-159.
- d. DESPORTES, C., 1945.—“Sur *Strongyloides stercoralis* (Bavay 1876) et sur les *Strongyloides* de primates.” (1944-1945), 20 (3/4), 160-190.
- e. DOLLFUS, R. P. & DESPORTES, C., 1945.—“Addendum [to: “Sur le genre *Rictularia* Froelich 1802 (Nématodes, Spiruroidea).”]” (1944-1945), 20 (3/4), 208.

(73a) Brumpt describes and figures the sporocysts, cercariae, and metacercariae of *Xiphidiocercaria polyxena* n.sp. from *Planorbis corneus*. The cercariae encysted in this and other snails, sometimes within the sporocysts, and, experimentally, in numerous aquatic larvae of insects but not in numerous other aquatic invertebrates or tadpoles. Encystment in culicid and chironomid larvae occurred experimentally in numbers large enough to kill the larvae.

B.G.P.

(73b) In each of 10 grass snakes from Corsica Brumpt found, between the skin and the musculature of the tail, numerous examples of a free agamodistomum which he identifies as *Alaria tetracystis*. There was also an encysted metacercaria which was probably another species of strigiid. The agamodistomum is described and figured. No trace could be found of the furcocercaria which probably precedes this stage and, experimentally, 2 ducklings failed to supply the adult (or the 3rd larval) stage.

B.G.P.

(73c) Reviewing the genus *Metorchis*, species by species, Dollfus & Callot regard *M. revilliodi* as a synonym of *M. albidus*, the species *pinguicola*, *intermedius* and *caeruleus* as synonyms of *M. xanthosomus*, and *M. zacharovi* as a synonym of *M. compascuus*. *M. caintaensis* is regarded as falling outside the genus. The authors report *M. albidus* as occurring naturally in the gallbladder of *Neomys fodiens* and experimentally in that of the cat, and *M. xanthosomus* for the first time from the gallbladder of the domestic fowl, and for the first time from France. The cat was infected with metacercariae from the gudgeon, *Gobio gobio*, which harboured at least 2 species.

B.G.P.



(73d) Desportes records a species of *Strongyloides* acquired by 2 gibbons from chimpanzees. The infestation was transmitted to cat, dog and man and, after a long morphological description, it is concluded that the species is *S. stercoralis*. Acute enteritis was caused in the chimpanzees, the 2 gibbons (both of which died of it), the cat, and the man. B.G.P.

(73e) [See also Ann. Parasit. hum. comp., 20, 6-34, Helm. Abs., Vol. XIV, No. 6b.]

#### 74—Annals of Applied Biology.

- a. WALLACE, E. R. & HICKMAN, C. J., 1945.—“The influence of date of lifting and method of storing on loss of onion bulbs harvested in 1943.” 32 (3), 200-205.
- b. ELLENBY, C., 1945.—“Control of the potato-root eelworm, *Heterodera rostochiensis* Wollenweber, by allyl isothiocyanate, the mustard oil of *Brassica nigra* L.” 32 (3), 237-239.
- c. GOODEY, T., 1945.—“Bloat or eelworm disease of onions: recent investigations.” [Abstract of paper read at the ordinary meeting of the Association of Applied Biologists, Friday, 8 December 1944.] 32 (3), 261-262.
- d. JENKIN, T. J., 1945.—“Diseases and pests at the Welsh Plant Breeding Station, Aberystwyth.” [Abstract of paper read at the joint meeting of the Association of Applied Biologists and of the Genetical Society, Friday, 23 March 1945.] 32 (3), 281.

(74a) Wallace & Hickman conducted plot experiments, in which 4 varieties of onions were grown from seed, in Lincolnshire and Worcestershire, to test the influence of date of lifting and method of storage on loss of bulbs after harvesting. The chief cause of loss at both centres was neck rot due to *Botrytis*, but eelworm attack by *A. dipsaci* was also proved to be a cause of loss both in the field and during storage. In the case of one of the onion varieties grown the eelworm was proved to be of seed-borne origin. T.G.

(74b) Ellenby describes some experiments on the control of the potato eelworm by allyl isothiocyanate, used both alone and in the presence of peat. He finds that highest yields are obtained when peat is present although its effect appears to fall off when the control yield is very poor. Where control yields are comparatively high, however, the chemical alone seems to have as great an effect as it does in the presence of peat. [The paper is concerned only with yields; there are no eelworm data.] D.F.

(74c) In this abstract of a paper delivered before the Association of Applied Biologists, Goodey gives an account of his investigations on the occurrence of seed-borne infections of *A. dipsaci* on onion seed, on the invasion of the scape and inflorescence during growth, and on the method of control by fumigation of seed with methyl bromide [see below nos. 119b & c]. T.G.

(74d) Jenkin mentions the white winter oat variety S.81 as being resistant to attack by the stem eelworm. T.G.

#### 75—Annals of Tropical Medicine and Parasitology.

- a. RIDLEY, H., 1945.—“Ocular lesions in trypanosomiasis.” 39 (2), 66-82.
- b. COWPER, S. G., 1945.—“Some observations on a filaria, *Foleyella leiperi* (Railliet, 1916), of the North American leopard-frog.” 39 (2), 119-124.

(75a) Ocular lesions, previously attributed to trypanosomiasis, are believed in the majority of cases to have been caused by concurrent onchocerciasis. J.J.C.B.

(75b) Cowper gives an account of the taxonomic position and morphology of the adults and microfilariae of this filaria from *Rana sphenoccephala*. The genus *Foleyella* is reviewed and it is concluded that the correct name of this frog filaria is *Foleyella leiperi* (Railliet, 1916), possibly synonymous with *F. americana* Walton, 1929. The adult male and female are figured, followed by an illustrated description of the microfilaria as it appears in the peripheral blood, deep visceral blood and body cavity of a mosquito. Experimental attempts to obtain developmental forms in *Aedes aegypti* and *Anopheles maculipennis* var. *atroparvus* are described. There



was no evidence of full development, no living microfilariae being found in the mosquito after the 4th day. Such development as was observed occurred only in *Aedes aegypti*. There was no development of thoracic muscle forms.

S.G.C.

#### 76—Archivos Uruguayos de Medicina, Cirugía y Especialidades.

- a. GRAÑA, A., 1945.—“Alergia y diagnóstico biológico de la hidatidosis.” 26 (6), 538–559.

(76a) Graña ascribes the serious accidents which sometimes follow on the rupture of a hydatid cyst to the combined effect of anaphylaxis and the primary toxicity of the escaping fluid. The paper reviews the various methods of diagnosis now in use and deals in detail with the Casoni test and its interpretation. A new type of diagnostic investigation named the “triple response test” is proposed.

R.T.L.

#### 77—Arkiv för Zoologi.

- a. JOYEUX, C., 1945.—“Cestodes du Brésil. I.” 37B (2), 1–4.  
b. JOYEUX, C., 1945.—“Cestodes du Brésil. II.” 37B (3), 1–5.

(77a & b) Joyeux has examined 2 groups of cestodes from Brazil and records 8 species from various hosts. They are *Oochoristica parva*, *O. tetragonocephala* (?), *Moniezia benedeni*, *Hymenolepis decipiens*, *H. diminuta*, *Taenia laticollis*, *Taenia* sp. from *Felis macroura*, and *Diphyllbothrium decipiens*.

P.A.C.

#### 78—Army Medical Department Bulletin. War Office.

- a. ANON, 1945.—“Ancylostomiasis complicating other disease—a reminder.” No. 47, 2–3.

#### 79—Australian Veterinary Journal.

- a. GORDON, H. McL., 1945.—“Phenothiazine as an anthelmintic.” 21 (4), 90–95.  
b. ANON, 1945.—“Control of trichostrongylosis in sheep. The use of phenothiazine and tetrachlorethylene as substitutes for nicotine.” 21 (4), 116–119.  
c. WALKER, D., 1945.—“Lesions in sheep attributed to *Strongyloides* larvae.” [Correspondence.] 21 (4), 120.

(79a) In a general account of phenothiazine as an anthelmintic Gordon stresses the important effect (for prophylaxis) of small doses in inhibiting nematode egg-laying. He also points out that if the efficiency of phenothiazine in killing trichostrongyles is 90% and that of copper-nicotine 60%, then after one treatment the worms remaining to lay eggs are 4 times as numerous in the second case. Phenothiazine has the disadvantages of occasional toxic effects, wool-staining, and high price. Its anthelmintic action is obscure, but the bulk and insolubility of the usual dose ensure adequate dispersion throughout the length of the alimentary tract. Specific uses, with dose rates, are given.

B.G.P.

(79b) This quotation from a C.S.I.R. Circular gives details for treating trichostrongylosis in sheep with either phenothiazine or tetrachlorethylene, during the present shortage of nicotine sulphate. Phenothiazine is recommended to be given as a drench by syringe, at from 30 lambs to 20 grown sheep per lb. From 4 ml. to 15 ml. of a mixture of tetrachlorethylene and liquid paraffin, preceded or accompanied by copper sulphate solution, is also given by syringe.

B.G.P.

(79c) Several cases of swelling of one leg, with lameness, in sheep in the Cooma district have been tentatively attributed to the action of *Strongyloides* larvae, but this has not yet been substantiated.

B.G.P.

#### 80—Bi-Monthly Bulletin. North Dakota Agricultural Experiment Station.

- a. EVELETH, D. F. & GOLDSBY, A. I., 1945.—“Using chemicals in combating internal parasites of sheep.” 7 (4), 9–11.

(80a) Eveleth & Goldsby summarize some of the methods that have been found effective in ridding sheep of different kinds of intestinal worms. They stress the importance of the full



utilization of all available information about each species of worm present and point out that since all worm remedies are poisons, care should be exercised in treatment especially with arsenic compounds and in the case of badly scouring lambs and of ewes in advanced pregnancy.

D.F.

### 81—Biológico.

- a. PENHA, A. M., 1945.—"Moléstias infecciosas e parasitárias mais importantes dos animais domésticos observadas no Estado de S. Paulo." 11 (5), 140-142.
- b. MELLO, M. J. DE & CUOCOLO SOBR., R., 1945.—"Helmintoses dos ruminantes domésticos (boi, carneiro e cabra)." 11 (6), 159-167; (7), 187-195.

(81a) This short list of the principal diseases seen in domestic animals during the 5 years of activity of the S. Paulo Instituto Biológico includes those due to some common helminths.

B.G.P.

(81b) De Mello & Cuocolo give a general account of the helminthiasis of cattle, sheep and goats. An introduction, recommending copper sulphate or phenothiazine as anthelmintics, is followed by sections treating briefly of the diseases due to trichostrongyles, oesophagostomes, *Trichuris*, *Ascaris*, *Dictyocaulus* (1st part), *Moniezia*, larval taeniids, *Fasciola* and *Eurytrema* (2nd part).

B.G.P.

### 82—Boletín del Instituto de Clínica Quirúrgica. Universidad de Buenos Aires.

- a. IVANISSEVICH, O. & TAIANA, J. A., 1945.—"Equinococosis hidatídica pulmonar, falsas recidivas e hidatidosis parietal secundaria." 21 (169), 25-36.
- b. RIVAS, C. I. & MANTILLA, L. R., 1945.—"Derrames peritoneales enquistados de origen hidatídico." 21 (169), 37-42.

### 83—Boletín Veterinario. Buenos Aires.

- a. MIRABELLI, H. J., 1945.—"Campaña profiláctica contra las zoonosis. Consideraciones iniciales." 2 (8), 5-10.

(83a) As part of a big official campaign to educate the public of Argentina on the prevention of diseases common to man and animals, Mirabelli gives a popular but reasonably detailed account of hydatid, with suggested practical measures for prevention. Human cases are on the increase, and the situation is complicated by clandestine slaughtering without inspection; however, Iceland is held up as an example of what can be achieved.

B.G.P.

### 84—Brasil-Médico.

- a. LISBOA, A., 1945.—"Estrongilose renal humana." 59 (11/13), 101-102.

### 85—British Journal of Ophthalmology. Monograph Supplement.

- a. RIDLEY, H., 1945.—"Ocular onchocerciasis, including an investigation in the Gold Coast." No. 10, 58 pp.

(85a) Ridley carried out ophthalmic examinations on 141 natives of Funsí, an inland village in the Gold Coast. Ocular onchocerciasis was diagnosed in 51 cases, of which 14 were blind and 8 had defective vision. The disease was manifested by one or more of the following conditions: corneal opacity, iridocyclitis, mass in anterior chamber, choroido-retinal degeneration and optic atrophy. In 45 cases microfilariae were seen in the eye, by means of a slit lamp, or in the conjunctiva. Six typical cases showed no microfilariae. Eye disease was noted in a child of 4 years and the youngest blind patient was aged 12. Nodules were present in 46 of the 51 cases and were situated on the head in 25 and on the trunk in 21 cases. Some 300 natives were examined for nodules and of these 131 were positive. Case reports are given of the patients with gross visual impairment and the results of all the ophthalmic examinations are summarized in tabular form.

J.J.C.B.



**86—British Medical Journal.**

- a. NG CHHUNG HIN, A. K., 1945.—“A sporadic case of trichiniasis.” Year 1945, 2 (4415), 219.
- b. BLACK, K. O., 1945.—“Cutaneous schistosomiasis involving *S. haematobium* eggs.” Year 1945, 2 (4422), 453-456.

(86a) A sporadic case of trichinosis which occurred at Torbay hospital in a female evacuee from London is reported with clinical details. The patient had eaten uncooked sausages spread on bread twice weekly while her husband and 3 children, who were unaffected, had eaten the sausages cooked in the ordinary way. R.T.L.

(86b) The clinical aspects of 4 cases of cutaneous schistosomiasis are described and illustrated by 3 photographs. Eggs were recovered by aspiration from 2 of those which occurred among 150 European cases in a West African military hospital. In all 4 cases the skin lesions at their first appearance were deep “shotty” pink papules arranged singly or in clusters with a surrounding area of erythema. Later these papules changed to a dull red and then purple or violet colour. Some slowly atrophied while others enlarged and became softer, with wrinkling of the overlying skin. R.T.L.

**87—Bulletin of the Department of Agriculture of South Australia.**

- a. MITTON, R. L., 1945.—“Internal parasites of sheep.” No. 394, 24 pp.

(87a) [This Bulletin is a reprint of 6 separate parts which have appeared in J. Dept. Agric. S. Australia. The more important of these have already been abstracted. See Helm. Abs., Vol. XII, No. 340b, Vol. XIII, Nos. 33a, 228a.]

**88—Bulletin. Montana Agricultural Experiment Station.**

- a. MORRIS, H. E. & AFANASIEV, M. M., 1945.—“Sugar beet diseases and their control in Montana.” No. 427, 22 pp.

(88a) Of the various diseases of sugar beet in Montana, infection with *Heterodera marioni* is said to be one of the most destructive although it is not generally distributed there. The only practical method of reducing the infection is to grow resistant crops, e.g. alfalfa, beans, peas, potatoes, small grains or maize for 4 or 5 years. Susceptible weeds such as mustards, lambs-quarter, knotweed, purslane and curly dock must, however, be eliminated. “Dump” dirt should not be returned to land which is to be used for growing sugar beet. R.T.L.

**89—Bulletin of the United States Army Medical Department.**

- a. ANON, 1945.—“The chemotherapy of Schistosomiasis japonica.” 4 (2), 178-180.
- b. THOMAS, JR., H. M. & GAGE, D. P., 1945.—“Symptomatology of early Schistosomiasis japonica.” 4 (2), 197-202.

(89a) Fouadin and tartar emetic are the drugs approved by the U.S. Army for schistosomiasis japonica. Details are discussed of the best methods for giving courses of injections, and also of possible toxic effects. B.G.P.

(89b) The invasion of Leyte Island gave Thomas & Gage an opportunity to study the early symptomatology of schistosomiasis japonica in U.S. troops, in relation to a known date of exposure to infection. These symptoms, which appeared from the third to ninth weeks after exposure (ova appeared from six and a half to ten weeks after exposure) were, in order of frequency: headache, anorexia, cough, chills, abdominal cramps, backache, diarrhoea, and itching. They varied in intensity from trivial to severe. Urticaria was frequently found, also enlarged liver. Characteristic were a leucocytosis up to 50,000 and an eosinophilia rising to as much as 90%. B.G.P.

## 90—Bulletin of Zoological Nomenclature.

- a. YAMAGUTI, S., 1945.—“On the meaning to be attached to the expression “Le plus anciennement désigné” used in article 25 of the international code, with special reference to the case of *Ophiotaenia ranarum* Iwata and Matuda, 1938, and *Ophiotaenia ranæ* Yamaguti, 1938 (Class Cestoidea, Order Tetraphyllidae).” 1 (5), 102.

(90a) *Ophiotaenia ranarum* Iwata et Matuda, 1938, was described in a Japanese journal on the 9th March, in a translation of the as yet unpublished English original, which was itself published on the 15th April. Meanwhile the same parasite was named *O. ranæ* Yamaguti in a paper published in English on the 30th March. Yamaguti asks for an opinion on priority.

B.G.P.

## 91—California Fish and Game.

- a. HERMAN, C. M., 1945.—“Gapeworm in California quail and chukar partridge.” 31 (2), 68–72.

(91a) In this popular article on gapeworm (*Syngamus trachea*), Herman records the presence of the parasite for the first time in California in *Alectoris graeca* and in *Lophortyx californica*.

P.A.C.

## 92—Canadian Journal of Comparative Medicine.

- a. CAMERON, T. W. M., 1945.—“Fish-carried parasites in Canada. (I) Parasites carried by fresh-water fish.” 9 (9), 245–254; (10), 283–286; (11), 302–311.  
b. ANON, 1945.—“Chronic diarrhoea of sheep and lambs in autumn.” 9 (10), 262.

(92a) Cameron describes the structure and life cycle of some Canadian helminths which are carried by fish and which may be of economic importance as parasites of man, domestic stock and game or fur-bearing animals. *Apophallus venustus*, a parasite of carnivores generally, is carried by many species of fish. Contrasting with this, *A. brevis*, found as an adult in *Gavia immer*, seems to be carried only by the speckled and the brown trout. *Metorchis conjunctus*, a parasite of canines, is carried by the common sucker. *Clinostomum marginatum*, normally an avian parasite, has been recorded from man in other parts of the world; it occurs in Canada and its infective stage is found on many fresh-water fish. Among the cestodes, *Diphyllbothrium latum* is the most important species, its larva appearing in pike, dore, pickerel and perch. Species of *Ligula*, *Triaenophorus* and *Proteocephalus* are also important economically, as the larval stages may be so abundant in fish that the meat must be condemned. Larval ascarids are frequently found in the flesh of sea fish and the metacercariae of *Cryptocotyle lingua*, a heterophyid parasite of gulls, occurs in other marine fish.

P.A.C.

(92b) Species of *Trichostrongylus* have long been recognized as a cause of chronic black scour of sheep and lambs in autumn and winter. In the last two years evidence has accumulated which implicates *Chabertia ovina* as an additional cause. Phenothiazine is effective against both but, owing to the location of *Chabertia* in the large intestine, a higher dose of 30 gm. for animals of over 75 lb. is recommended, and a special autumn treatment for black scour may be necessary in addition to the spring treatment for stomach and nodular worms.

B.G.P.

## 93—Canadian Journal of Research. Section D. Zoological Sciences.

- a. MILLER, R. B., 1945.—“Studies on cestodes of the genus *Triaenophorus* from fish of Lesser Slave Lake, Alberta. IV. The life of *Triaenophorus crassus* Forel in the second intermediate host.” 23 (4), 105–115.  
b. MILLER, R. B., 1945.—“Studies on cestodes of the genus *Triaenophorus* from fish of Lesser Slave Lake, Alberta. V. Description and life history of *Triaenophorus stizostedionis* n.sp.” 23 (5), 117–127.

(93a) Miller describes the plerocercoid of *Triaenophorus crassus* which in Alberta can be found parasitizing any species of *Leucichthys* besides several other fish. They are always



surrounded by a cyst of host origin and of variable shape. Young plerocercoids are large structures in large cysts but both larva and cyst eventually degenerate, the "cauda" probably being the result of degeneration. Maximum infestation appears in fish aged 5 to 6 years and the plerocercoid probably lives for at least 3 years. Transformation from proceroid to plerocercoid takes about 2 months and is complete before cyst formation is apparent. When swallowed by the definitive host, excystation occurs and young worms are attached by the third day: the posterior region of the strobila is lost immediately, being most probably shed. P.A.C.

(93b) Miller describes *Trienophorus stizostedionis* n.sp., a cestode parasite of the gut of *Stizostedion vitreum*. It can be recognized by the shape of the hooks. These consist of a curved basal plate, bearing 3 prongs, the central one being sturdy and embedded as a root in the head tissue. Other species of this genus have 4-pronged hooks. The genital system of the male carries other distinguishing features. *Cyclops bicuspidatus* acts as first intermediate host while the trout-perch, *Percopsis omiscomaycus*, is apparently the second. P.A.C.

#### 94—Ceylon Journal of Science. Section B. Zoology.

- a. LOOS, C. A., 1945.—"Notes on free-living and plant-parasitic nematodes of Ceylon I." 23 (1), 1-7.

(94a) Loos gives detailed, illustrated descriptions of the following free-living nematodes collected from soil in Ceylon: *Aporcelaimus minor* n.sp., *Dorylaimus insignis* n.sp., *D. intrastriatus* n.sp., *D. biroi* Daday var. *zeylanicus* n. var. T.G.

#### 95—Clinical Proceedings. Journal of the Cape Town Post-Graduate Medical Association.

- a. SARTORIUS, K., 1945.—"Intestinal obstruction due to round worms (*Ascaris lumbricoides*) with a report on two cases." 4 (4), 194-199.

#### 96—Comptes Rendus (Doklady) de l'Académie des Sciences de l'URSS.

- a. DAVTJAN, E. A., 1945.—"Comparative susceptibility of molluscs to invasion by larvae of nematodes, causative agents of pulmonary helminthoses in sheep and goat." 46 (2), 86-87.  
 b. SKARBILOVICH, T. S., 1945.—"Seasonal destrobilization in the cestode *Mesocostoides lineatus*, parasitic of silver-black fox." 46 (4), 171-172.  
 c. VINNITZKY, I. M., 1945.—"Causes and value of migration phenomenon in *Ascaris* larvae. Evolutionary ways of biological cycles of development within the order Ascaridata." 46 (6), 258-260.  
 d. SOLDATOVA, A. P., 1945.—"A contribution to the study of the biology of Oribatei mites, intermediate hosts of cestodes of the family Anoplocephalidae." 46 (8), 343-344.  
 e. SKRYABIN, K. I. & SHIKHOBALOVA, N. P., 1945.—"On the morphological nature and taxonomic value of nematodes belonging to the genera *Dicheilonema* Dies., 1861, and *Mono-petalonema* Dies., 1861." 47 (5), 382-384.

(96a) On the basis of examining some 30,000 molluscs of 38 species exposed to natural infestation, and some 46,000 of 51 species to experimental infestation with larvae of sheep and goat lungworms, Davtjan finds that 41 species are susceptible to *Muellerius capillaris*, 35 to *Cystocaulus nigrescens* and 20 to *Synthetocaulus* spp. The first-named lungworm can use limnaeid and planorbid (aquatic) snails, whereas *Synthetocaulus* prefers snails of a dry habitat. In any given mollusc a high rate of susceptibility goes along with a high intensity of infestation and a short period of larval development, and conversely. The molluscan families Clausiliidae, Cochlicopidae and Ellobiidae are immune to all lungworms studied. B.G.P.

(96b) Skarbilovich has noticed that *Mesocostoides lineatus* in silver-black foxes in Russia sheds its segments in the autumn of the year, leaving only the scolices. Very few segments are found during the winter and strobilation seems almost to cease until the following spring. The reason is not obvious but it is suggested that the action reserves the generative power of the parasite for the time when suitable vectors abound. P.A.C.

(96c) Vinnitzky sees the larval migration of *Ascaris*, not as a phylogenetic recapitulation of an ancestral intermediate-host stage, but rather as of an ancestral skin-penetrating form, the penetration tropism still actuating the newly-hatched larvae. During the migration the host reacts by encapsulating a (sometimes high) proportion of larvae; moreover there is very little host-specificity at this stage, and the encapsulated larvae remain alive and potentially infective to the definitive host for some time. Thus the way is opened for, at first, facultative, and finally obligatory, intermediaries, this type of life-cycle being not primitive but a late evolutionary development. B.G.P.

(96d) The longevity of sexually mature oribatid mites is an important factor in the epizootology of anoplocephalid infestations. Soldatova presents data on the longevity of 3 anoplocephalid intermediaries, the average durations of the sexually mature stages being from 14 to 16 months in *Galumna obivius*, *Schelorbates laevigatus*, and *S. latipes*. With the pre-imaginal stages, the total lifetime of these mites is some 19 months. B.G.P.

(96e) As *Monopetalonema* is not a consistent taxonomic unit the authors propose its exclusion from the taxonomy of the Filariidae. *Filaria nodulosa* has to be referred to *Parhamatospiculum* and *F. physalurum* to the genus *Politospiculum*. The position of *F. eremita* will be considered later. The genus *Dicheilonema*, containing 10 heterogeneous species which have to be referred to different genera, is also held to have lost its taxonomic significance. The genera *Contortospiculum*, containing *Filaria labiata*, and *Molinema*, containing *F. bifida* (both of which species had been named as "types" of *Dicheilonema*) are retained. R.T.L.

#### 97—Comptes Rendus des Séances de la Société de Biologie. Paris.

- a. DESCHIENS, R. & MARCHAL, G., 1945.—"Sur les propriétés anthelminthiques des oxydes et du benzoate de benzyle." 139 (7/8), 351-353.

(97a) Deschiens & Marchal have examined the anthelmintic effects of di-benzyl-ether, ethyl benzyl ether and benzyl benzoate, using *Rhabditis macrocerca* for *in vitro* tests and *Aspiculuris tetraptera* and *Syphacia obvelata* for *in vivo* tests. Ethyl benzyl ether is the most toxic. Benzyl benzoate shows only slight anthelmintic effect and is fairly toxic. Di-benzyl ether shows parasitocidal action against all the helminths and is the most promising of the substances. P.A.C.

#### 98—Contributions from Boyce Thompson Institute.

- a. McCOOL, M. M., 1945.—"Effect of sodium cyanide on number of fungi, bacteria, and Actinomyces in soil and its value in the control of damping off of seedlings, nematodes, and cabbage root worm." 13 (10), 463-472.

(98a) Sodium cyanide proved effective in controlling *Heterodera marioni* when it was applied 7 inches below the surface of the soil at the rate of 100 parts per million in vessels sealed for 72 hours prior to planting with tomatoes. R.T.L.

#### 99—Cornell Veterinarian.

- a. WHITLOCK, J. H., 1945.—"Anthelmintic bioassay of simple saturated hydrocarbons." 35 (3), 214-220.  
b. WHITLOCK, J. H., RODERICK, L. M., LEASURE, E. E. & LINK, R. P., 1945.—"Outbreak of haemonchosis in feeder lambs." 35 (3), 273-275.  
c. MORSE, E. V., 1945.—"Vermineous ascites in a dog." 35 (3), 281-282.

(99a) Whitlock has applied the method of bioassay, using *Nippostrongylus muris* in rats as test helminths, described by himself and Bliss in 1943 [see Helm. Abs., Vol. XII, Nos. 25c, 25d], to the anthelmintic evaluation of a number of saturated hydrocarbons. Petroleum hexane,



synthetic hexane, and cyclohexane were all effective, but the addition of more carbon atoms (heptane, octane) or of side chains (trimethylpentane, dimethyloctane) gave decreased efficiency. Incidentally, the "probit/log dosage" plot gave a straight line. Petroleum hexane resin-casein emulsion in 1 oz. doses was found effective in sheep against *Haemonchus*, but less effective against trichostrongyles than phenothiazine (using egg-counts as criterion). This drug used alone tends to cause bloat in sheep but it can usefully be employed, in emulsions, along with carbon tetrachloride or tetrachlorethylene since the dose of these toxic drugs can then be correspondingly reduced.

B.G.P.

(99b) Whitlock et al. report the loss by a sheep feeder near Manhattan of a high percentage of feeder lambs treated with phenothiazine. The authors treated one batch of untreated survivors with phenothiazine and salt and another batch individually with reduced doses of a number of other anthelmintics. This resulted in the faeces of the first batch becoming almost negative for worm eggs without any corresponding improvement in condition. Response in the second group was good except in the case of sheep treated with carbon tetrachloride, the reduced dose of phenothiazine resulting in a marked clinical improvement. Haemoglobin values at the time of treatment and 4 weeks after were inconsistent and yielded little, if any, information.

D.F.

### 100—Current Science.

- a. SARWAR, M. M., 1945.—"Two new records of the species of the genus *Trichuris* from Indian ruminants." 14 (6), 156.
- b. MUDALIAR, S. V., 1945.—"On a species of *Schistosoma* recorded for the first time from the elephant." 14 (7), 176-177.

(100a) Sarwar records the presence of *Trichuris parvoispiculum* from sheep and goats, and of *Trichuris discolor* from cattle and buffalo from the United Provinces in India. Anterior cuticular vesicles and plaques were noticed.

P.A.C.

(100b) [A fuller account of this work appears in Indian Vet. J., 22, 1-4. For abstract see below No. 109a.]

### 101—East African Medical Journal.

- a. CAWSTON, F. G., 1945.—"Bilharzia disease and allied parasitic infections." 22 (6), 194-197.

(101a) Cawston briefly relates some personal experience in treating Bilharzia and hookworm infections, and draws attention to certain fallacies in the attempts which are being made to control Bilharzia disease by attacking simply the molluscan vectors by chemicals. The only reliable guide to the value of any wholesale method of control is the number of endemic cases which occur. The destruction of mosquitoes by oiling indirectly increases the snail population by interfering with bird-life, iguanas, beetles and other influences which disturb the water. So far no one appears to have observed natural infections in *Bulinus forskalii* in South Africa, and this may explain the unsatisfactory attempts at controlling bilharzial infection. Bilharzia cercariae readily shed their tails when water is agitated. Its forcible disturbance by a ram and metal pipes may account for the comparative immunity of residents in country dwellings unless they have exposed themselves by wading in infected streams.

R.T.L.

### 102—Empire Journal of Experimental Agriculture.

- a. ELLENBY, C., 1945.—"Susceptibility of South American tuber-forming species of *Solanum* to the potato-root eelworm *Heterodera rostochiensis* Wollenweber." 13 (51), 158-168.

(102a) During 4 years Ellenby tested about 56 different South American tuber-forming *Solanums* for their susceptibility to potato-root eelworm. About 40 forms were grown in infected soil and their roots subsequently examined for eelworm cysts, in addition to tests of

the effectiveness of the root excretions from a large number of plants in stimulating the hatching of larvae from cysts *in vitro*. In only one species, *S. pampasense*, were no cysts found on the roots, but in many of the others infection was much lighter than in the Great Scot controls. In nearly all the hatching experiments fewer larvae emerged from the cysts in root excretions from the South American plants than in root excretions from Great Scot, and in one or two cases there was no hatching. Other evidence seems to indicate that cysts from the roots of *S. caldense* were less productive of larvae than similar ones from the roots of Great Scot. M.T.F.

### 103—Farming in South Africa.

- a. COLES, J. D. W. A., 1945.—“Parasites of fowls.” 20 (235), 629–637.

(103a) In a popular article dealing with parasites of fowls, Coles briefly mentions some of the more important helminths. P.A.C.

### 104—Gardeners' Chronicle.

- a. BUCKHURST, C. D., 1945.—“Hot water treatment of chrysanthemums.” 118 (3073), 211.

(104a) Buckhurst recommends hot water treatment of chrysanthemum stools for the control of the chrysanthemum foliar eelworm, *Aphelenchoides ritzema-bosi*. He gives practical details for carrying out the treatment on a small scale in the kitchen with the hot water being supplied from the domestic hot tap. T.G.

### 105—Harefuah.

- a. UNGAR, H., 1945.—“Complications due to ascariasis, as observed at autopsy.” 28 (11), 237–241. [In Hebrew: English summary pp. 240–241.]

(105a) Eight cases are reported in support of the view that serious complications depend not so much on the presence of excessive numbers of ascaris worms but rather on their coincidence with other pathological conditions. R.T.L.

### 106—Indian Farming.

- a. MOHAN, R. N., 1945.—“Hump-sore and its treatment.” 6 (2), 55–56.

(106a) Mohan gives a general account of hump sore in cattle in India, which has been ascribed to *Stephanofilaria assamensis*, and then describes in more detail some methods of treatment which are as yet under trial but have given encouraging results. Two methods are recommended, both of which involve the use of tartar emetic: (i) repeated intravenous injections of this drug in watery solution (for every 100 lb. body weight, 1.5 grains of tartar emetic daily or 2.5 grains on alternate days, to a total of 6 injections), (ii) local application of tartar emetic ointment of suitable strength (4%). The ointment is said to be the more effective method and is simple to use. After curetting the sore, to remove debris and as much as possible of the diseased tissue, the ointment is rubbed vigorously into the wound daily for a few days. This is followed by daily applications of the ointment. If treatment is resisted after initial progress, further curetting is helpful. J.J.C.B.

### 107—Indian Journal of Medical Research.

- a. SUNDAR RAO, S., 1945.—“Filarial infection in Dhamda (Drug District, C.P.) due to *Wuchereria malayi*.” 33 (1), 175–176.

(107a) Examination of the blood at night of 120 persons in the village of Dhamda in Drug tehsil, Central Provinces of India, showed no *Microfilaria bancrofti* but 16 had *M. malayi*. 2.2% of the whole population had elephantiasis of the legs or hands (80 cases). There were no cases of hydrocele, chyluria, lymph-varix or elephantiasis of the genitals. Of the 4 species of mosquitoes found only the commonest, *Mansonioides annulifera*, was infected. The water supply of the village is obtained from wells and from tanks with *Pistia stratiotes*. R.T.L.



**108—Indian Medical Gazette.**

- a. GHOSH, P. K., 1945.—“Persistent intractable headache in an adult caused by *Ascaris lumbricoides*.” 80 (5), 263.
- b. MUKERJI, A. K. & SEN GUPTA, K. K., 1945.—“Effect of heat and light on the ascaridol content in oil of chenopodium.” 80 (7), 347-348.
- c. ANDERSEN, D. A., 1945.—“Hydatid cysts. A clinical study of a short series.” 80 (8), 373-377.

(108b) Direct heat and light from the sun and even diffuse strong light results in a marked loss of ascaridol content of oil of chenopodium stored for 12 months. The best storage is a cool place protected from direct light and with a temperature not exceeding 75°F. R.T.L.

**109—Indian Veterinary Journal.**

- a. MUDALIAR, S. V. & RAMANUJACHARY, G., 1945.—“*Schistosoma nairi* n.sp. from an elephant.” 22 (1), 1-4.
- b. MOITRA, B. L., 1945.—“The efficacy of nemural in cestode infestation of fowls.” 22 (2), 137.
- c. KHAMBATA, F. S., 1945.—“Animal parasitism.” 22 (3), 154-165.

(109a) A schistosome from the Indian elephant is described under the name *Schistosoma nairi* n.sp. It resembles *S. bomfordi* and *S. turkestanicum* in possessing a large number of testes, ranging up to 52 in number. The dorsum of the male carries coarse tubercles in longitudinal rows. The females are distinctly shorter than the males and the caecum is very much shorter than the two main gut branches. The egg is elongate, oval, with one side flattened, and has a short abrupt spine. There are longitudinal rugae on the shell. R.T.L.

(109b) Moitra shows that nemural may be a useful drug for the elimination of cestodes from chickens though the birds may show slight symptoms temporarily after its use. P.A.C.

**110—Journal of the American Medical Association.**

- a. BERK, J. E., 1945.—“Transitory pulmonary infiltrations.” [Correspondence.] 127 (6), 354-355.
- b. WRIGHT, D. O. & GOLD, E. M., 1945.—“Loeffler's syndrome associated with creeping eruption (cutaneous helminthiasis).” 128 (15), 1082-1083.
- c. ZELIGS, M. A., 1945.—“Psychosomatic aspects of filariasis: present day evaluation.” 128 (16), 1139-1142.
- d. SAPHIR, W., 1945.—“Filariasis: early clinical manifestations. An analysis of thirty-five cases.” 128 (16), 1142-1144.

(110a) Referring to a previous editorial on Loeffler's syndrome [see Helm. Abs., Vol. XIII, No. 225c], Berk quotes numerous references to pulmonary involvement in human and animal infestations with *Strongyloides* and other nematodes. B.G.P.

(110b) Wright & Gold have seen 26 cases of typical creeping eruption within a year. Of 15 of them which were extensively observed, 9 showed Loeffler's syndrome, namely in combining: (i) a transient and migratory pulmonary infiltration which appeared to be interstitial rather than alveolar and which caused no illness apart from a mild cough in 4 cases; (ii) paucity of symptoms and physical signs; and (iii) a peripheral and sputal eosinophilia (the latter rising to 90% in one case). The allergic basis for the syndrome was confirmed by a normal sedimentation rate and white-cell count, and by positive skin reactions to nematode (*Ascaris* or *Trichinella*) antigens. This is claimed as the first association of Loeffler's syndrome with creeping eruption (assumed due to *Ancylostoma braziliense*). B.G.P.

(110c) Zeligs evaluates the latest knowledge of certain aspects of filariasis from observations made upon marines who have returned from the South Pacific with this disease. Complete restoration to normality depends upon a set course of training and supervision and the essential point is made that in affected individuals, when removed from endemic areas, the disease runs a self-limited course and soon dies out. Severe involvement occurred in only 0.2% of cases, while impairment of sexual function was never demonstrable. J.J.C.B.

(110d) The diagnosis of filariasis in its early stages when microfilariae are not demonstrable in the blood, is of considerable importance. Thirty-five cases were analysed and a clinical syndrome was observed which is believed to be sufficiently characteristic to permit the presumptive diagnosis of the early manifestations of the disease. J.J.C.B.

**111—Journal of the American Veterinary Medical Association.**

- a. ENZIE, F. D., HABERMANN, R. T. & FOSTER, A. O., 1945.—“A comparison of oil of chenopodium, phenothiazine and sodium fluoride as anthelmintics for swine.” 107 (821), 57–66.
- b. CAUTHEN, G. E., 1945.—“Tests of the safety of phenothiazine for cattle.” 107 (821), 71–72.

(111a) Sodium fluoride removed 100% of 23 *Ascaris* from 26 pigs when 150 gm. was given as a 1% mixture of the regular feed to pigs in a single day. It was well tolerated and easily administered. Phenothiazine given as 0.2 gm. per lb. weight in the regular feed removed less than 1% of 390 ascarids from 26 pigs but was quite effective against nodular worms. Oil of chenopodium, 0.05 c.c. per lb. given by stomach tube, removed 86% of 100 ascarids from 20 pigs but was comparatively ineffective against other helminths. Several of the pigs vomited and one died. The paper contains a useful bibliography and summary of the literature.

R.T.L.

(111b) The dose of phenothiazine recommended for cattle by the U.S. Bureau of Animal Industry is 20 gm. per cwt. up to a maximum of 60 gm. In view of some reports of intoxication with this drug, Cauthen dosed 14 calves (not heavily infested) with various high doses, given in one or several doses. Toxic symptoms lasting 2 days were apparent only in a 260 lb., 7½-months calf given a single dose of 250 gm. Doses of 100 gm. at a time were well tolerated.

B.G.P.

**112—Journal of Animal Science.**

- a. THORP, W. T. S., HENNING, W. L. & SHIGLEY, J. F., 1945.—“Phenothiazine as an anthelmintic for breeding ewes.” 4 (2), 133–140.

(112a) Thorp et al. report on the effects of drenching 20 Merino ewes with phenothiazine at the start of the experiment, and then giving them access to a 1 : 9 phenothiazine : salt mixture continuously for 3 years. This long-term experiment, which may be continued for 5 or more years, is to detect possible effects on metabolism, blood counts, and reproduction, as well as on the worm burden; the present report deals mainly with worm-egg counts from the 20 ewes and their lambs, and from 4 other flocks. The 3-year experiment shows that egg-counts from the ewes remain consistently low after the initial drenching, but those from their lambs running with them are much higher. Three older ewes which died this last season showed some fatty degeneration of the liver and sinus congestion in the spleen, possibly due to the drug. No effect on fertility is apparent. It is at present recommended that ewes be drenched in late autumn and again after lambing, and be given the 1 : 9 mixture during the grazing season only, in northern Pennsylvania. [It is claimed that the following eggs can be differentiated: *Strongyloides*, *Trichostrongylus*, *Cooperia*, *Ostertagia*, *Haemonchus*, *Oesophagostomum*, *Nematodirus*, and *Bunostomum*.]

B.G.P.

**113—Journal of Bone and Joint Surgery.**

- a. HOWORTH, M. B., 1945.—“Echinococcosis of bone.” 27 (3), 401–411.

**114—Journal of the Department of Agriculture. South Australia.**

- a. MITTON, R. L., 1945.—“Internal parasites of sheep : lung worms.” 48 (9), 381–382.
- b. ANON, 1945.—“Shortage of nicotine sulphate for control of worms in sheep. Phenothiazine and tetrachlorethylene available as substitutes.” 48 (9), 384.
- c. GERAGHTY, P. L., 1945.—“Control and treatment of sheep worms.” 48 (9), 397–398.
- d. MITTON, R. L., 1945.—“Internal parasites of sheep ; common worm drenches (anthelmintics).” 48 (10), 417–421.



## 115—Journal of the Department of Agriculture. Victoria.

- a. NICOL, G., 1945.—“Fistulous withers in horses.” 43 (4), 162, 164.

(115a) Nicol discusses the aetiology, prognosis and treatment of fistulous withers in horses.  
J.J.C.B.

## 116—Journal of the Department of Agriculture. Western Australia.

- a. ANON, 1945.—“Substitute drenches for treatment against black scour worm.” 2nd Ser., 22 (1), 52-53.

(116a) [The substance of this paper appears also in Agric. Gaz. N.S.W., 56, 137, 141. For abstract see Helm. Abs., Vol. XIV, No. 1b.]

## 117—Journal of Economic Entomology.

- a. CARTER, W., 1945.—“Soil treatments with special reference to fumigation with D-D mixture.” 38 (1), 35-44.

(117a) Carter gives supporting data for his earlier report on D-D mixture (dichloro-propylene and dichloropropane) as a soil amendment and disinfectant [see Helm Abs., Vol. XII, No. 41b], and adds negative results with a number of other compounds (weed killers, bromine mixtures, chlorinated compounds, and alcohols). In Hawaii the pineapple is subject to a complex of soil pathogens, including *Heterodera marioni*, but the response of plants grown in soil treated with D-D or chloropicrin cannot be ascribed solely to the destruction of pathogens. In the case of D-D, for example, the response was most marked not until 2 years after planting. The explanation is probably that an efficient disinfectant allows the young plant to develop a large root system early. It is held that plant growth, as measured in terms of yield, is the best criterion of efficacy for a soil fumigant. In this sense D-D not only is as good as chloropicrin but also is cheaper and safer in application.  
B.G.P.

## 118—Journal of the Elisha Mitchell Scientific Society.

- a. LARSH, JR., J. E., 1945.—“Immunity relations in human cestode infections.” 61 (1/2), 201-210.

(118a) Larsh reviews our knowledge of helminth immunity as found with *Taenia solium*, *T. saginata*, *Echinococcus granulosus* and *Hymenolepis nana*. Immunity develops as a result of the penetration of tissues by the larval stages and not from the adults. Antibodies can be demonstrated by complement fixation or precipitation or by the Casoni intradermal test. These immunological responses are probably identical with those of other disease-producing organisms.  
P.A.C.

## 119—Journal of Helminthology.

- a. GOODEY, T., 1945.—“Symptoms of disease in tulips caused by *Anguillulina dipsaci*.” 21 (2/3), 43-44.  
b. GOODEY, T., 1945.—“*Anguillulina dipsaci* on onion seed and its control by fumigation with methyl bromide.” 21 (2/3), 45-59.  
c. GOODEY, T., 1945.—“Further observations on *Anguillulina dipsaci* infestation of the onion scape and inflorescence.” 21 (2/3), 60-68.  
d. GOODEY, T., 1945.—“A note on the subfamily Turbatricinae and the genus *Turbator* Goodey, 1943.” 21 (2/3), 69-70.  
e. FRANKLIN, M. T., 1945.—“On *Heterodera cruciferae* n.sp. of brassicas, and on a *Heterodera* strain infecting clover and dock.” 21 (2/3), 71-84.  
f. CLAPHAM, P. A., 1945.—“On some characters of the genus *Trichuris* and a description of *T. parvispicularis* n.sp. from a cane rat.” 21 (2/3), 85-89.  
g. CLAPHAM, P. A., 1945.—“Some helminths from West Africa.” 21 (2/3), 90-92.  
h. CLAPHAM, P. A., 1945.—“Some bird helminths from Antigua.” 21 (2/3), 93-99.

- i. CLAPHAM, P. A., 1945.—“A curious case of nematode parasitism in a West African hadada, *Geronticus hagedash*.” 21 (2/3), 99-103.
- j. BATES, G. H., 1945.—“An alien weed host of *Heterodera rostochiensis* in England.” 21 (2/3), 104.
- k. GOODEY, T., 1945.—“*Anguillulina brenani* n.sp., a nematode causing galls on the moss, *Pottia bryoides* Mitt.” 21 (2/3), 105-110.

(119a) The stem eelworm, *Anguillulina dipsaci*, has been found causing a disease of tulips in the Spalding area and Goodey gives an account of the chief symptoms as manifested in the leaves, the flower stems and the flowers. The paper is illustrated with 2 photographs which show the marked lesions produced on the leaves and stems. T.G.

(119b) Presenting the results of further investigations on the occurrence of *A. dipsaci* on onion seed, Goodey shows that the worms are usually attached in the region of the hilum and that there may be one or two or up to 50 on a single seed. A method of control for the destruction of the nematodes, but without injury to the seed, is described. The seed is fumigated with methyl bromide for 18 to 24 hours so that a minimum dosage of 600 is attained, i.e. a concentration-time product of 600. Thus if seed is fumigated for 20 hours it must be given methyl bromide at 30 milligrams per litre or 30 oz. per 1,000 cubic feet. At this dosage the attached nematodes, and any present in particles of chaff, are destroyed. Treated seed is uninjured but has a slightly slower rate of germination during the first 10 days than untreated seed. The probable origin of seed-borne infection from lightly infected parent bulbs is discussed and it is also shown that at the present time seed-borne infection is fairly widespread, having been found to occur on 9 different varieties of onion as distributed by seeds merchants. T.G.

(119c) Goodey carried out experiments to determine the source of the infection of *A. dipsaci* on onion seed. He made use of (i) onion bulbs known to be lightly infected and showing mild symptoms of attack, (ii) onion bulbs apparently sound but possibly carrying a latent infection and (iii) sound bulbs which were planted in infected soil. In (i) 35 out of 36 bulbs planted succumbed without flowering but the one which flowered produced 2 scapes and inflorescences one of which was heavily infected. In (ii) 18.4% of the scapes and inflorescences were infected with *A. dipsaci* whilst in (iii) all the scapes became infected. He concludes that the most probable source of the seed-borne infection of commercial onion seed is (ii) i.e. apparently sound bulbs carrying an undetectable latent infection. The invasion of the scape, the inflorescence and the various floral organs is fully described and illustrated with photomicrographs. T.G.

(119d) Goodey adds a note on the nematode subfamily Turbatricinae and the genus *Turbator* erected in a recent paper [see Helm. Abs., Vol. XII, No. 176a]. He formally designates *Turbatrix* as type genus of the subfamily Turbatricinae and shows that the generic name *Turbator* should be replaced by *Panagrellus* Thorne, 1938. T.G.

(119e) Franklin describes a new species of *Heterodera* found parasitizing cabbages and shown experimentally to be able to reproduce on other brassicas and members of the crucifer family, but not attacking beet or mangolds. The larvae are significantly smaller than those of *H. schachtii*: the cysts are lemon-shaped, but smaller and rounder than those of the sugar beet eelworm and usually have an egg mass nearly as big as the cyst attached posteriorly, often enclosing one or more males. The author also gives results of infection tests with cysts from the roots of clovers (*Trifolium* spp.) and dock (*Rumex crispus*), which seem to prove that the same race of *Heterodera* parasitizes both genera and that it may possibly be identical with the sugar beet eelworm. A few experiments with cysts of *H. göttingiana* indicate that its host range is very limited. M.T.F.

(119f) *Trichuris parvispicularis* n.sp. from *Thryonomys swinderianus* in Southern Rhodesia can be distinguished by the length of the spicules and by the relative proportions of the parts of



the male genital system. The testis and vas deferens are both loosely coiled. Descriptions of the females of *T. trichiura* and *T. ovis* are also given and they can be distinguished by the nature of the vulval opening and by the head characters.

P.A.C.

(119g) A collection of West African parasites included no new species but new host or geographical records were *Clinostomum complanatum* from *Ardeola ralloides*, *Hymenolepis serrata* from *Streptopelia senegalensis* and a species of *Lagochilascaris* which has only once before been recorded from the Old World.

P.A.C.

(119h) In a collection of bird helminths from Antigua, *Yseria quadripartita* n.sp. from *Totanus melanoleucus* is described. It can be distinguished by its size, the number of teeth on the cervical papillae, the position of the vulva and by the subdivisions of the cephalic flaps. New host or geographical records are *Apharyngostrigea cornu* from *Nycticorax violaceus*, *Diorchis americana* from *Gallinula catoropus*, *Corynosoma semerme* from *N. violaceus* and *Centrorhynchus globocaudatus* from *Falco columbarius*. Spirurid larvae of the genera *Echinuria* and *Schistorophus* were abundant and it was possible to make some morphological observations on the development of these genera.

P.A.C.

(119i) Intestinal nodules from *Geronticus hagedash* in West Africa contained numerous spirurid larvae. Each nodule contained a single larva in an advanced stage of development. It was always a female with perforate vulva, with the uterus full of sperm. The ovaries were not functional and neither males nor adult females could be found, in either the nodules or the lumen of the intestine. There were also present large numbers of eggs and first-stage larvae. It has not been possible to account for these curious facts.

P.A.C.

(119j) Bates describes *Solanum sarachoides*, a weed of which the seeds are frequently found amongst imported carrot seed. The weed appears to be establishing itself in light soils in the market gardening districts of Staffordshire. When grown experimentally in pots of soil infected with the potato root eelworm (*Heterodera rostochiensis*) it became heavily infected with cysts. It has not been found infected in the field. Bates states that there should be no difficulty in removing the seeds of this weed from carrot seed.

M.T.F.

(119k) Goodey describes and figures *Anguillulina brenani* n.sp., a parasitic eelworm causing galls on shoots of the moss, *Pottia bryoides* Mitt. The new species is compared and contrasted with *Anguillulina askenasyi* and the structure of the galls is also dealt with.

T.G.

## 120—Journal of Laboratory and Clinical Medicine.

- a. BROWN, R. L., 1945.—“Evaluation of techniques used in the diagnosis of enterozoic parasitism in children.” 30 (2), 135–137.

## 121—Journal of the Ministry of Agriculture. London.

- a. PETHERBRIDGE, F. R. & DILLON WESTON, W. A. R., 1945.—“Potato root eelworm.” 52 (6), 264–265.  
 b. JOHNSON, L. R. & THOMPSON, H. W., 1945.—“Potato root eelworm in Yorkshire.” 52 (6), 266–270.  
 c. ARMSTRONG, S. F., 1945.—“Cereal varieties for autumn sowing.” 52 (7), 295–297.  
 d. ANON, 1945.—“Trace elements in sheep and cattle.” 52 (8), 373–374.

(121a) In a short illustrated article on *Heterodera rostochiensis*, Petherbridge & Dillon Weston deal with the symptoms of attack and give a short account of the life-history of the parasite. For control measures, they recommend crop rotation as a primary control measure also the use of seed potatoes grown in eelworm free land in order to prevent initial infection.

D.F.

(121b) Johnson & Thompson, in an eelworm survey of a sandy area based on Selby, and a warp area based on Goole, examine certain aspects of the potato eelworm problem in York-

shire. The effect of resting eelworm soil is discussed as also is the relation between cyst population and crop damage. Attention is drawn to the ease with which eelworm can be spread from one part of a farm to another and the importance of good rotational practice is stressed.

D.F.

(121c) In describing the characteristics of cereals suitable for autumn sowing, Armstrong mentions the following oat varieties as showing resistance to attack by the stem eelworm, namely, Picton, S.81, Grey Winter and Unique.

T.G.

## 122—Journal of Neurosurgery.

- a. ARANA, R. & ASENJO, A., 1945.—“Ventriculographic diagnosis of cysticercosis of the posterior fossa.” 2 (3), 181-190.

## 123—Journal of Parasitology.

- a. FRANKS, M. B. & STOLL, N. R., 1945.—“The isolation of microfilariae from blood for use as an antigen.” 31 (3), 158-162.
- b. FERNANDO, W., 1945.—“The storage of glycogen in the *Temnocephaloidea*.” 31 (3), 185-190.
- c. SCOTT, O. K., RICHARDS, C. S. & SEAMAN, E. A., 1945.—“Experimental infection of Southern California mosquitoes with *Wuchereria bancrofti*.” 31 (3), 195-197.
- d. LEIGH, W. H. & VAN CLEAVE, H. J., 1945.—“Metamorphosis of the frog host as a factor in cercarial penetration by *Glyphelminis quieta*.” 31 (3), 205-209.
- e. SELF, J. T., 1945.—“A new trematode, *Neoreimifer crotali*, from the rattlesnake.” 31 (3), 210-211.
- f. JONES, A. W., 1945.—“Studies in cestode cytology.” 31 (4), 213-235.
- g. NEWTON, W. L. & PRATT, I., 1945.—“Experiments to determine whether infective larvae of *Wuchereria bancrofti* can migrate from the abdomen of the mosquito intermediate host.” 31 (4), 266-268.
- h. HUSSEY, K. L., 1945.—“The miracidium of *Proterometra macrostoma* (Faust) Horsfall 1933.” 31 (4), 269-271.
- i. SEITNER, P. G., 1945.—“Studies on five new species of xiphidiocercariae of the *Virgula* type.” 31 (4), 272-281.
- j. CHANDLER, A. C., 1945.—“*Trichuris* species from California rodents.” 31 (4), 284-286.
- k. WEBSTER, J. D. & ADDIS, C. J., 1945.—“Helminths from the bob-white quail in Texas.” 31 (4), 286-287.
- l. MAUSS, E. A., 1945.—“Pinworm infestation among children of rural communities.” 31 (4), 288.
- m. LARSH, JR., J. E., 1945.—“Effects of alcohol on natural resistance to the dwarf tapeworm in mice.” 31 (5), 291-300.
- n. STUNKARD, H. W., 1945.—“The morphology of *Tamerlania bragai* Dos Santos, 1934.” 31 (5), 301-305.
- o. MALDONADO, J. F., 1945.—“The life cycle of *Tamerlania bragai* Santos 1934, (Eucotyliidae), a kidney fluke of domestic pigeons.” 31 (5), 306-314.
- p. GOBLE, F. C. & KUTZ, H. L., 1945.—“The genus *Dispharynx* (Nematoda: Acuariidae) in galliform and passeriform birds.” 31 (5), 323-331.
- q. VAN CLEAVE, H. J., 1945.—“The acanthocephalan genus *Corynosoma*. I. The species found in water birds of North America.” 31 (5), 332-340.

(123a) Franks & Stoll have isolated microfilariae in bulk from the blood of dogs infested with *Dirofilaria immitis* with a view to making antigens for the diagnosis of human filariasis. Citrated blood is centrifuged and the packed red cells are lysed with saponin. After further centrifugation the sediment containing stroma and microfilariae is continually washed, shaken and centrifuged in saline-citrate solution. All processes were completed as far as possible in the cold. Microfilariae retain their viability and can be stored alive for as long as 2 weeks afterwards. Antigen is prepared by drying the larvae and extracting with physiological saline.

P.A.C.

(123b) Fernando finds that *Caridinicola indica*, a temnocephalid worm, stores glycogen in all its organs, including the intestinal epithelium, the nervous and excretory systems. Little is stored in the outer epithelial layers of the body, in some of the muscles and in the ducts of the genitalia. In a related species, *Monodiscus parvus*, large quantities are stored, particularly in the suckers and alimentary canal. There is none in the excretory system.

P.A.C.



(123c) The common species of mosquitoes of the San Diego area of California were fed on a patient from St. Croix, Virgin Islands who had numerous microfilariae in his blood at night. From a study of the resulting infections the authors conclude that in Southern California *Culex quinquefasciatus*, *C. erythrorhox* and probably *C. tarsalis* could become local vectors of *Filaria bancrofti*. In *Aedes taeniorhynchus* the mortality was very great under laboratory conditions.

R.T.L.

(123d) Leigh & Van Cleave examine the factors for penetration of the skin of frogs by the plagiorchid xiphidiocercaria of *Glypthelmins quieta*. That the histological structure of the skin of tadpoles of the normal hosts is unsuitable, was shown by cercariae penetrating only on the body and legs of tadpoles after normal or experimentally accelerated metamorphosis. The deterrent factors of the tadpole skin are its large cells, its thickness, and its lack of the functional acinous and mucus glands of the adult. Penetration without subsequent encystment was obtained in cast frog skin, but cercariae were indifferent to artificial mucus films and also to the highly mucous skin of salamanders.

N.G.S.

(123e) *Neorenenifer crotali* n.sp. is described by Self from the lower lung of *Crotalus atrox*. Its distinguishing features are a smooth cuticle, a lobed excretory vesicle, and a genital pore on the left margin. It is nearest to *N. septicus*, but has a larger pharynx, a relatively shorter oesophagus, and a more anterior genital pore.

N.G.S.

(123f) Jones shows that morphologically, ecologically and cytologically the Hymenolepididae show great uniformity while the Dilepididae are diverse. An examination of the chromosomes of members of the Hymenolepididae shows the number to be either 10 or 12. *Protygonella blarinae*, *Diorchis reynoldsi*, *Hymenolepis fraterna* and *Diorchis ralli* have 10, while *H. anthocephalus*, *H. diminuta*, *Aploparaksis* sp., *H. serpentulus sturni* and *H. serpentulus turdi* have 12, though an aberrant specimen of *H. anthocephalus* gave a variety of chromosome counts. Among the Dilepididae the chromosome count varied and may be 10, 12, 14 or 16. *Rhabdometra similis* has 12 and they are very small. *Anonchotaenia globata* also has 12, while an unidentified species of *Anonchotaenia*, which can be distinguished by an unusual development of the embryo, has 16. *Liga brasiliensis* has 14 and a species of *Choanotaenia* has 16, of which 14 bear a close resemblance to those of *Liga*.

P.A.C.

(123g) Newton & Pratt show that the infective larvae of *Wuchereria bancrofti* can migrate from the abdomen of a mosquito to the head and proboscis and that they have a tendency to do so. Into the abdomens of 27 mosquitoes of various species the infective larvae were introduced and their movements were observed by dissecting the mosquitoes in 20 to 105 minutes after the inoculation. Of the total of 68 active larvae recovered, 32 had migrated to the thorax and 12 to the head or proboscis. 24 were found in the abdomen.

J.J.C.B.

(123h) Hussey shows that the miracidium of *Proterometra macrostoma* is, like three other genera of Azygiidae, devoid of the usual ciliated epithelium, and instead has tracts of bristles on spirally arranged plates—a similar condition exists in the hemiurid genus *Halipegus*. The present species has five plates on the cephalic region which bear spines anteriorly, and four extending over the rest of the body.

N.G.S.

(123i) Seitner describes very small differences, chiefly concerned with the stylet, in the belief that these may be of value in distinguishing 5 species of xiphidiocercariae of the Virgula type found in Indiana snails. The Virgula organ in all of them is of the bilobed type, and they have 3 pairs of penetration glands. *Goniobasis depygis* contained *Cercaria nyxetica* n.sp., and its metacercariae developed in May-fly larvae; ecological evidence supports the suspicion that this is the frog trematode *Loxogenes bicolor*. From another locality *G. livescens* yielded *C. meringura* n.sp., and *C. tranoglandis* n.sp.; *Pleurocera acuta* contained *C. nothrica* n.sp., while from another place it yielded *C. neustica* n.sp.

N.G.S.

(123j) Chandler describes 4 species of *Trichuris* from rodents in California. *T. fossor* from *Thomomys bottae bottae* is already known as a parasite of *Thomomys fossor*. *T. citelli* n.sp. is a parasite of the caecum of *Citellus beecheyi*. Though resembling *T. muris*, it is larger and the size of the cloacal tube is distinctive. *T. perognathi* n.sp., an inhabitant of the caecum of *Perognathus californicus californicus* has a very short oesophageal region, distinctive spicules and, in the female, a vulva placed on a cuticular evagination. *T. neotomae* n.sp. from the caecum of *Neotoma fuscipes* can be recognized by the size and shape of the spicules and ovejector and by the large eggs. The distal portion of the cloaca is heavily chitinated and corrugated. P.A.C.

(123k) Webster & Addis record the following helminth parasites from the bob-white quail in Texas; *Railletina colinia*, *R. cesticillus*, *Paricterotaenia* sp., *Rhabdometra odiosa*, *Aulonoccephalus lindquisti* apparently a new host record, *Cyrnea* sp. and *Syngamus trachea*. P.A.C.

(123l) Of 315 children from small towns in South Dakota, examined once for pinworm, 39.4% were positive, infestations being slightly more frequent in girls than in boys. Infestation became more frequent when the children began to go to school. P.A.C.

(123m) Using *Hymenolepis nana* var. *fraterna*, Larsh shows that the effect of alcohol on resistance to infection in mice depends largely on the concentration: 10% produces little change while effects may be noticed as early as one week after administration of 45% alcohol. This artificial lowering of resistance quickly disappeared when alcohol treatment was discontinued. A large intoxicating dose of alcohol inhibited the development of cysticercoids unless the body temperature of the mice was kept up to normal artificially. P.A.C.

(123n) Stunkard redescribes *Tamerlamia bragai* from material from Puerto Rico and Rio de Janeiro, and compares it with the original description, noting the presence of the small, probably functionless, acetabulum (originally discovered by Maldonado), which is significant in connection with the status of the suborder Monostomata. N.G.S.

(123o) Maldonado's studies on the life cycle of *T. bragai* are the first to be made on a eucotyloid trematode [see Helm. Abs., Vol. XII, No. 183r]. All the stages occur within a single intermediate host (*Subulina octona*), and are here described in detail. The tailless cercariae encyst within the daughter sporocyst and become infective metacercariae while still in the snail, whence they are transferred directly to the pigeon, arriving in the kidney and its ducts by way of the cloaca. He has also shown that an acetabulum is present in this species in the cercaria, metacercaria and young adult, but it atrophies at sexual maturity. N.G.S.

(123p) While *Dispharynx* is rare in domestic birds in North America its incidence in wild gallinaceous birds is high. In the ruffed grouse it reaches over 30%. Peafowl, crow, blue bird, starling and cowbird in New York State were found to be infected. The infection in all cases proved to be *D. nasuta* (Rud., 1819), of which *D. spiralis* (Molin, 1858) is considered a synonym. R.T.L.

(123q) Two species of *Corynosoma* infect water birds of North America, viz., *C. constrictum* Van Cleave 1918, and *C. anatarium* n.sp. from a duck. Hosts and geographical distribution of *C. constrictum* in the author's collection are tabulated. These two species are readily differentiated on the number and size of the proboscis hooks. *C. constrictum* has from 2 to 4 more longitudinal rows than *C. anatarium*. The largest hooks of the former rarely exceed 0.047 mm. in length while those of the latter are commonly 0.088 mm. R.T.L.

## 124—Journal of Pediatrics.

- a. BROWN, R. L., 1945.—"Incidence of enterozoic parasitism in children: a survey." 26 (1), 61-65.



## 125—Journal of the South African Veterinary Medical Association.

- a. CHAPMAN, K. H., 1945.—“The connexion between degree of rainfall and of infection of cattle by “*Cysticercus bovis*” Cobbold in Tanganyika Territory.” 16 (2), 44-46.
- b. ORTLEPP, R. J., 1945.—“The lung worm, *Filaroides osleri* (Cobbold) in South African bred dogs. (Preliminary note).” 16 (3), 86-88.
- c. STEYN, H. P., 1945.—“The lung worm, *Filaroides osleri* (Cobbold) in dogs: a clinical report.” 16 (3), 88-89.

(125a) Chapman states that White attributes the heavy infection of cattle with *Cysticercus bovis* in densely populated districts of Uganda to the fact that they are often herded together in small areas near human habitations. An old theory that during drought cattle tended to graze nearer the villages, thus tending to pick up more infection, is probably incorrect. The rainfall of the district is probably not directly involved. P.A.C.

(125b) To the 20 recorded cases of *Filaroides osleri* (formerly *Oslerus osleri*) in domestic dogs, Ortlepp adds 5 more, all from related bull mastiffs. The worms live in soft nodules in the region of the tracheal bifurcation, each nodule containing a dozen or more males (6 mm.) and females (10 mm.). The fully embryonated “eggs” have a flexible sheath rather than a shell. B.G.P.

(125c) Steyn records the discovery of *Filaroides osleri* in dogs bred in South Africa. He gives a clinical report on two cases. In one case the most notable symptoms were some emaciation and marked dyspnoea with fits of coughing followed by vomiting. In the other case there was no emaciation and practically no dyspnoea but there were occasional fits of coughing followed by vomiting. Eggs of the parasite were found in mucus from the larynx in both instances. Phenothiazine proved useless. R.T.L.

## 126—Journal of the Washington Academy of Sciences.

- a. COWIE, D. B., LAWTON, A. H., NESS, A. T., BRADY, F. J. & OGDEN, G. E., 1945.—“Localization of radioactive antimony following multiple daily injections to a dog infected with *Dirofilaria immitis*.” 35 (6), 192-195.
- b. DIKMANS, G., 1945.—“Two new lungworms, *Protostrongylus gracilis* and *Varestrongylus sinicus* (Nematoda: Protostrongylinae), from sheep and goats in China.” 35 (9), 294-296.

(126a) Cowie et al. gave 12 daily injections of sodium antimonyl xylitol, at the rate of 0.8 mg./Kg., to a dog infected with *Dirofilaria immitis*, and found that there was a continuous rise in the antimony level of the blood, as measured before each injection. Microfilariae disappeared only after 9 injections, indicating that only then was a threshold concentration attained. The dog was killed 3 days after the experiment, when assay of various tissues showed that the highest concentrations of antimony were in the thyroid, liver, parathyroid, and in the worms, in that order, and the lowest in the blood (at that time). The technique of assay is of great interest: the drug was synthesized from radioactive antimony, and the various tissues (including blood) were weighed, dried, and assayed with a Geiger-Müller counter. Disintegration rates were compared with standards made from normal blood containing known amounts of radioactive antimony and were measured with an accuracy of  $\pm 1\%$ . B.G.P.

(126b) *Protostrongylus gracilis* n.sp. resembles *P. skrjabini* Boev, 1937; since no figures were given with the description of the latter, the two cannot be differentiated. *Varestrongylus sinicus* n.sp. differs from the only other species (*V. pneumonicus* Bhalerao, 1932) in the form of the gubernaculum. Both worms are from the small bronchioles and lung tissue of sheep and goats in Lanchow, China. B.G.P.

## 127—Journal of Wildlife Management.

- a. ROLLINGS, C. T., 1945.—“Habits, foods and parasites of the bobcat in Minnesota.” 9 (2), 131-145.
- b. FALLIS, A. M., 1945.—“Population trends and blood parasites of ruffed grouse in Ontario.” 9 (3), 203-206.
- c. SCHWARTZ, II, J. E. & MITCHELL, G. E., 1945.—“The Roosevelt elk on the Olympic Peninsula, Washington.” 9 (4), 295-319.

(127a) In an article concerned mainly with the habits of *Lynx rufus rufus* in Minnesota, mention is made of helminth parasites found at post mortem examination of 50 specimens. *Toxocara cati* was found in nearly half the animals. *Toxascaris leonina*, *Physaloptera praeputialis*, *Physaloptera* sp., *Toxocara* sp., an intestinal ascarine, and *Spirocerca sanguinolenta* were the other nematodes found in a few animals. There were 6 identified and one unidentified cestodes: they were *Taenia taeniaeformis*, *T. pisiformis*, *T. hydatigena*, *T. rileyi*, *T. monostephanos* and *T. krabbei*. P.A.C.

(127b) In connection with a cyclical decline in the population of the ruffed grouse (*Bonasa umbellus*) in Canada, Fallis has examined the blood of 44 birds and found numerous protozoa and, in 6 birds, a microfilaria. B.G.P.

(127c) In the course of their ecological study of the Roosevelt elk (*Cervus canadensis roosevelti*) on the Olympic Peninsula, Washington, Schwartz & Mitchell refer to 32 autopsies in which *Dictyocaulus viviparus* was found in 23 cases, *Thysanosoma actinioides* in 7, and *Oesophagostomum venulosum* and *Trichuris* sp. in 5. Lungworm is held to be an important parasite in winter, when food is scarce. *Fascioloides magna* is also common. B.G.P.

## 128—Klinicheskaya Meditsina.

- a. LAPTEV, A. A., 1945.—[Clinical observations on strongyloidiasis of the lungs.] 23 (3), 75-76. [In Russian.]

(128a) On examining the sputum of a patient brought to the hospital suffering from broncho-pneumonia, the author found it to contain mature *Strongyloides stercoralis*. Intravenous injections of 20 c.c. alcohol 33% for 20 consecutive days, and 0.1 gm. methylene blue per os three times daily for 15 days, proved to be an effective treatment. C.R.

## 129—Medical Journal of Australia.

- a. BINNS, R. T., 1945.—“A study of diseases of Australian natives in the Northern Territory.” 32nd Year, 1 (17), 421-426.

(129a) Hookworm, with its associated anaemia, is the only helminth infection mentioned in the diseases reported from the Northern Territory of Australia. 12% of the natives admitted to hospital carried infections. Three female patients from Bathurst Island had a profound secondary anaemia. Details are given of the most severe of these cases. R.T.L.

## 130—Medical Parasitology and Parasitic Diseases.

- a. IONINA, N. S., 1945.—[A case of presence of two oncospheres in the egg of *Hymenolepis nana*.] 14 (1), 88. [In Russian.]
- b. SEMENOVA, N. E., 1945.—[Experiment in treatment of enterobiasis with phenothiazine.] 14 (1), 88-90. [In Russian.]

(130a) Ionina describes an abnormal egg of *Hymenolepis nana* containing 2 oncospheres, a drawing of which is included in the paper. C.R.

(130b) To demonstrate the efficacy of phenothiazine the author dosed 3 groups of adult persons infected with *Enterobius vermicularis*. The first group, consisting of 10 men, was given 1 gm. four times daily for 5 consecutive days and at the end of this time 4 people were



cured. Two more were free from infection after a second course of treatment; one showed some improvement after a third course, while 3 completely failed to respond. In the second group, 16 men were given 1 gm. three times daily (also for 5 days) and of these, 2 were cured after first treatment; 5 after the second and 2 more after the third course. In one man no results were obtained but in the remaining 6, definite improvement was noted. In both these groups the 5 day treatments were repeated at monthly intervals. The third group consisting of 13 men was given 0.5 gm. 4 times daily. This treatment was given twice within 14 days and at the end of this time 6 people were cured. After the third course one other cure was recorded. Four cases showed marked improvement while 2 remained without progress. Laxatives were given at the end of each 5 day course. The author comments on secondary symptoms noted in 2 cases and also on blood changes observed. C.R.

### 131—Medicina. Revista Mexicana.

- a. NETTEL F., R., 1945.—“Onchocercosis. Importancia del xenodiagnóstico y de la investigación de microfilarias en su fase de transición.” 25 (485), 194-203.

(131a) Nettel describes the technique of xenodiagnosis in cases of *Onchocerca* infestation, whereby a Simulid vector is caught in the act of sucking blood and microfilariae are sought in the abdominal contents. Developmental stages of the parasite, from the thoracic muscles of the fly, are also described. B.G.P.

### 132—Nature. London.

- a. LI, F.-P. & YANG, F.-H., 1945.—“A medium for mounting parasitic helminths.” [Correspondence.] 156 (3958), 297-298.  
b. GOODEY, T., 1945.—“Calomel and onion eelworm.” [Correspondence.] 156 (3961), 393-394.  
c. HARRIS, J. R. & HICKEY, M. D., 1945.—“Occurrence of the *Diphyllobothriidae* in Ireland.” [Correspondence.] 156 (3963), 447-448.

(132a) Li & Yang describe an aqueous medium containing gum arabic, chloralhydrate and glycerine suitable for mounting helminths. They claim that its great tolerance to water renders dehydration unnecessary and that it obviates deterioration and discoloration of carmine-stained specimens mounted in it. Lapage, in a letter commenting on this medium, lists several media suitable for mounting helminths and points out the similarity of several of these to Li & Yang's medium. D.F.

(132b) Goodey carried out tests to determine whether calomel or any product of its decomposition when in contact with moist soil had any lethal effect on the stem eelworm, *Anguillulina dipsaci*. He found that the nematodes from eelworm “wool” which had been liberally covered with calomel and left in moist soil for various periods were just as motile as those which had not been treated with calomel and concludes that neither calomel nor its decomposition products formed in moist soil have any controlling effect on the eelworm. T.G.

(132c) Of 79 perch from Lake Gardice in the County of Leitrim, Ireland, 35 were infected with plerocercoids. After experimental feeding to dogs the adults and eggs of *Diphyllobothrium latum* were recovered. The morphological and ecological differences between these plerocercoids and those reported from Poulaphouca, near Dublin by Hickey & Harris [see Helm. Abs., Vol. XIII, No. 89a] are discussed. R.T.L.

### 133—New Zealand Journal of Science and Technology. A. Agricultural Section.

- a. DUMBLETON, L. J., 1945.—“Bacterial and nematode parasites of soil insects.” 27 (1), 76-81.  
b. JACKS, H., 1945.—“Soil disinfection. III. Chemical treatments for eelworm control.” 27 (2), 93-97.

(133a) The nematode, *Neoaplectana glaseri*, which has been shown in the United States to be capable of parasitizing the Japanese beetle and certain “white grubs,” was imported into

New Zealand and Dumbleton reports that it will attack the larvae of *Odontria zealandica* and *Oxycamus cervinata*, two important soil-inhabiting insect pests of New Zealand pastures. T.G.

(133b) Trials for the control of *Heterodera marioni* made with infected potting soil in boxes gave promising results with chloropicrin and Shell D-D. Tomato seedlings were used as test plants. Chloropicrin produced marked improvement in plant growth although it was slightly inferior to Shell D-D in controlling the infection. This effect is attributed to the effect on the plant rather than to the control of the parasite. Ethylene dichloride and cresylic acid gave poor results. R.T.L.

### 134—New Zealand Medical Journal.

- a. BARNETT, L., 1945.—“Hydatid incidence in New Zealand for the year 1943.” 44 (240), 99–100.

(134a) War difficulties preclude the issue of full 1943 statistics on hydatid in New Zealand, but Barnett records 63 human cases under hospital treatment, and 14 deaths. Incidence in sheep and cattle, from abattoir returns, is again 35%, but Christchurch, Auckland, and Dunedin have shown a decrease. It is estimated that two thirds of New Zealand dogs are free from *Echinococcus granulosus*, partly owing to natural immunity. B.G.P.

### 135—North American Veterinarian.

- a. ANON, 1945.—“Sodium fluoride as an anthelmintic for swine.” 26 (6), 348.  
b. ANON, 1945.—“Two outbreaks of trichinosis.” 26 (7), 388.  
c. ANON, 1945.—“Hexachlorethane proving effective in control of cattle liver fluke.” 26 (7), 404.  
d. TURK, R. D., 1945.—“Trichostrongylosis of sheep and goats.” 26 (8), 474–476.  
e. ALLEN, R. W., 1945.—“Trials with sodium fluoride as an ascaricide for swine.” 26 (11), 661–664.  
f. MEGINNIS, P. J., KHUEN, E. C., YOUNG, W. A. & BRITTON, E. E., 1945.—“Report of special committee on canine filariasis.” [Paper presented at the 63rd Annual Meeting of the Illinois State Veterinary Medical Association, Springfield, January 18–19, 1945.] 26 (11), 674–676.

(135a) This brief article quotes the U.S. Department of Agriculture as having found sodium fluoride, mixed with the feed, effective in removing 96 to 100% of *Ascaris* in pigs. [See above, No. 72a.] B.G.P.

(135b) The U.S. Department of Agriculture is quoted as reporting 130 human cases of trichinosis in Cedar County, Iowa, and a further 30 in New York City. Infection is traced to a smoked sausage known as mettwurst in both cases. B.G.P.

(135d) Turk calls attention to outbreaks of trichostrongylosis in both sheep and goats, in early winter following a dry summer. In both the cases mentioned, the animals had been regularly drenched with phenothiazine and the sheep had also had access to phenothiazine-salt licks. “Anthelmintics alone are not sufficient” and he stresses the importance of adequate nutrition and pasture rotation in controlling this disease. B.G.P.

(135e) Allen tested the ascaricidal effect of sodium fluoride given to 60 pigs as 1% of their feed for one day. Of 334 ascarids counted, 297 (89%) either were expelled or were found in the large intestine (and therefore presumed about to be expelled) within 6 days from treatment. Of 52 ascarids in 10 untreated controls, 15 (29%) were expelled, mostly from pigs with diarrhoea. No toxic symptoms ascribable to the drug were noticed. B.G.P.

(135f) A questionnaire on canine filariasis sent out by a special committee of the Illinois State Veterinary Medical Association produced replies from 48 veterinarians representing 25 counties. Of 78 cases reported 40 came from St. Clair County and the East St. Louis area. 60 out of the 78 cases were diagnosed by the direct smear method. 40 practitioners did not consider that canine filariasis would ever develop serious proportions in Illinois while 8 gave an affirmative opinion. Much of the report is based on the citation of work published between 1935 and 1945. R.T.L.



## 136—Ohio Journal of Science.

- a. JOHNSON, F., 1945.—“Epiphytology of winter wheat mosaic.” 45 (3), 85-96.
- b. KAY, M. W., 1945.—“A description of *Calinella ophiodontis* n.sp. (Trematoda, Monogenea) from the ling cod, *Ophiodon elongatus* Girard.” 45 (3), 111-114.

(136a) A virus disease of wheat known as winter wheat mosaic has been investigated by Johnson who found evidence to suggest that some kind of soil vector is responsible for the transmission of the disease. Among various animal organisms tested were soil nematodes which were extracted from virus-infested soil by a Baermann funnel technique and transferred to virus-free soil, in which susceptible wheat plants were growing, either direct or after culturing on an agar medium with a fungus for a time. The trials were repeated 6 times and many hundreds of plants were involved but in no case was there evidence that the nematodes transmitted the virus.

T.G.

(136b) Kay describes a Udonellid from caligid copepods in the oral cavity of *Ophiodon elongatus* from Friday Harbour, Washington, which she names *Calinella ophiodontis* n.sp.

N.G.S.

## 137—Phytopathology.

- a. FARRIS, G. K., 1945.—“The nematocidal and fungicidal value of D-D mixture and other soil fumigants.” 35 (10), 771-780.
- b. STEINER, G., 1945.—“Meadow nematodes as the cause of root destruction.” 35 (11), 935-937.

(137a) Parris finds D-D to be as effective against *Heterodera marioni* at concentrations of 150 lb. per acre as is chloropicrin. Other substances closely allied to it chemically have no nematocidal value at this dosage. As a fungicide D-D was found to be disappointing even at dosages of 1,000 lb. per acre. Slight phytocidal action was apparent if plants were set out too soon after treatment, the necessary time interval being longer in cold than in warm soils. The effectiveness of D-D appears to be unaffected by cold.

D.F.

(137b) Steiner indicates the chief characteristics of attack by eelworms of the genus *Pratylenchus* Filipjev which invade the cortical tissues of roots of a wide range of host plants. The direct damage which they cause may not be very extensive but the secondary effects of their attacks may be very marked in various ways including necrosis by secondary invading pathogens and interference with the normal functioning of the plant.

T.G.

## 138—Proceedings of the Helminthological Society of Washington.

- a. THORNE, G., 1945.—“*Ditylenchus destructor* n.sp., the potato rot nematode, and *Ditylenchus dipsaci* (Kühn, 1857) Filipjev, 1936, the teasel nematode (Nematoda: Tylenchidae).” 12 (2), 27-34.
- b. STEINER, G., 1945.—“*Helicotylenchus*, a new genus of plant-parasitic nematodes and its relationship to *Rotylenchus* Filipjev.” 12 (2), 34-38.
- c. CHITWOOD, B. G. & BUHRER, E. M., 1945.—“Summary of soil fumigant tests made against the golden nematode of potatoes (*Heterodera rostochiensis* Wollenweber), 1942-1944.” 12 (2), 39-41.
- d. McBETH, C. W., 1945.—“Tests on the susceptibility and resistance of several southern grasses to the root-knot nematode, *Heterodera marioni*.” 12 (2), 41-44.
- e. DOUGHERTY, E. C., 1945.—“A review of the genus *Crenosoma* Molin, 1861 (Nematoda: Trichostrongylidae); its history, taxonomy, adult morphology, and distribution.” 12 (2), 44-62.
- f. BRAND, T. von & WINKELJOHN, M. I., 1945.—“Observations on the ether extract of *Ascaris* males and *Eustrongylides* larvae.” 12 (2), 62-65.
- g. CABALLERO y C., E., 1945.—“Variations in the number and arrangement of the caudal papillae of the male of *Onchocerca armillata* Railliet and Henry, 1909, and the validity of the species.” 12 (2), 65-69.
- h. DIKMANS, G., 1945.—“A note on the identity of *Protostrongylus kwongi* Wu and Liu, 1943.” 12 (2), 69-71.
- i. WARD, J. W., 1945.—“A new locality record for five species of helminth parasites of the bobwhite quail.” 12 (2), 71-72.

(138a) A form of the stem eelworm giving rise to rot in potato tubers has been found in Idaho, U.S.A. Its structure has been studied in great detail by Thorne who differentiates it, under the name of *Ditylenchus destructor* n.sp., from *Ditylenchus dipsaci* (Kühn) Filipjev attacking teasel. The chief distinguishing features of *D. destructor* are the possession of 6 incisures in the lateral fields instead of 4 incisures as in *D. dipsaci* and certain small differences in the structure of the spicules. The paper is fully illustrated. T.G.

(138b) Steiner gives a detailed illustrated description of *Helicotylenchus nannus* n.g., n.sp., a root parasite found in *Phaseolus lunatus* L. (lima bean) at Beltsville, U.S.A. [The new genus is closely similar to the form described by Goodey (1940) under the name of *Anguillulina erythrinae*.] T.G.

(138c) Chitwood & Buhrer have obtained promising results in the control of *Heterodera rostochiensis* on potatoes by soil fumigation with (i) various commercial mixtures containing methyl bromide, (ii) chloropicrin, (iii) carbon disulphide and (iv) D-D, a crude product containing 1,3-dichloropropylene and 1,2-dichloropropane. Of these the last two showed the best results. The spacing of the injections of the chemicals is very important. Their conclusion is that fumigation of land infested with *H. rostochiensis* is not economically justifiable from the standpoint of crop production unless the benefits can be shown to extend over a period of several years despite the doubled and sometimes tripled crop obtained on treated infected land. R.T.L.

(138d) Of 18 species of grasses tested for resistance to *Heterodera marioni*, Woolly finger-grass, common and Paraguay Bahia grass and Pensacola Bahia grass were highly resistant. Coastal Bermuda grass and common pearl millet proved entirely free from infection in the one test made, while common Bermuda grass (in 2 tests) and pearl millet (48-A3 selection) were infected indicating a difference in certain strains. Sudan grass, common Bermuda grass, Carpet grass and corn were most heavily infected. R.T.L.

(138e) The genus *Crenosoma* and its 9 acceptable species are reviewed. The subdivision of the suborder Strongylyna into superfamilies is rejected. Those strongylinines with well-developed mouth capsules are termed *eustomatous* while those with poorly developed stomata as in *Crenosoma* are called *meiostomatous*. The meiostomatous strongylinines are placed as in Leiper's classification in the families Metastrongylidae and Trichostrongylidae on the morphology of the ovejectors. Dictyocaulidae of Skrjabin 1941 is discarded for Skrjabingylinae Skrjabin 1933 and *Crenosoma* is placed therein. R.T.L.

(138f) Ether extract of male *Ascaris lumbricoides* contained phospholipids 12.8%, unsaponifiable material 15.6%, fatty acids 50.4% and 21.2% of unidentified material. The unsaponifiable material consisted of ascaryl alcohol with possibly a small admixture of a true sterol. Ether extract of larval *Eustrongylides ignotus* contained phospholipids 25.8%, unsaponifiable material 16.9%, unsaturated fatty acids 22.4%, saturated fatty acids 7.4%, glycerol 1.9% and unidentified material 25.6%. R.T.L.

(138g) Seven male specimens of *Onchocerca armillata* collected from the aortic wall of *Bos taurus* in Annam, show considerable variations in the number and arrangement of the caudal papillae. This species is valid as it differs from other *Onchocerca* in the very large papillae, the constant presence of 2 pairs of latero-external adanal papillae and the presence of wide caudal alae in the male. R.T.L.

(138h) Lungworms from sheep and goats in Northwest China are identified as *Protostrongylus gracilis*, *Varestrongylus sinicus* Dikmans and *Protostrongylus kwongi* Wu & Liu. An illustrated description is given of the latter species as the original paper by Wu & Liu is not easily accessible. R.T.L.



## 139—Proceedings of the Indian Academy of Sciences. Section B.

- a. KAW, B. L., 1945.—“On the present status of the genus *Loxozenes*.” 21 (6), 342–343.
- b. MISRA, V. R., 1945.—“On a new species of genus *Oochoristica* from the intestine of *Calotes versicolor*.” 22 (1), 1–5.
- c. CHAUHAN, B. S. & BHALERAO, G. D., 1945.—“*Loimos secundus* (Monogenea, Trematoda) from the gills of the common Indian dog-fish, (*Scoliodon sorrakowah*).” 22 (3), 164–167.

(139a) In 1943, Kaw transferred the type species of *Loxogenes* to *Pleurogenoides*, leaving only *L. bicolor* Krull, 1933 in that genus [see Helm. Abs., Vol. XII, No. 381a]. He now creates *Loxogenoides* n.g. to receive *L. bicolor* as type and only species. He also lists several corrigenda to the earlier paper [including “*Loxogenoides* (n.g.) for *Loxogenes*,” which might lead to the earlier date being wrongly attached to this new genus].

B.G.P.

(139b) Misra describes *Oochoristica indica* n.sp. from *Calotes versicolor* in Lucknow. It can be distinguished by certain details of the genitalia, particularly the number of the testes and the size of the cirrus sac, by its large size and well developed suckers.

P.A.C.

(139c) *Loimos secundus* n.sp. from the gills of a dog-fish from Rangoon is distinguished by a single pair of sucker-like depressions pre-orally, and the posterior haptor being an aseptate disc with a ribbed border, folded upon itself forming a dorsal and ventral lobe. It lacks marginal hooklets but has one pair of small anchors; 9–10 transversally elongate testes are arranged seriatim in the median field. The genus is transferred from Monocotylidae to Microbothriidae owing to lack of haptorial septa, nature of the pre-oral region and pharynx, but the subfamily Loimoinae is retained.

N.G.S.

## 140—Queensland Agricultural Journal.

- a. ROBERTS, F. H. S., 1945.—“Substitutes for the bluestone and nicotine sulphate worm drench for sheep.” 60 (6), 370–371.

(140a) Roberts states that, owing to drought, Queensland sheep were (in June) facing the winter in poor condition favouring trichostrongylosis, and that stocks of nicotine sulphate were exhausted. As alternatives he recommends against *Haemonchus*, bluestone, alone or with arsenic, or carbon tetrachloride; against *Trichostrongylus*, bluestone and tetrachlorethylene successively, or phenothiazine. Phenothiazine is more costly, at 3½d. per adult sheep, than the bluestone tetrachlorethylene drench, at 0·8d., but is more efficient and is the only drug recommended against *Oesophagostomum*.

B.G.P.

## 141—Radiology.

- a. DUNNING, W. F. & CURTIS, M. R., 1945.—“The experimental production of extra-skeletal bone-forming neoplasms in the rat.” 44 (1), 64–76.

(141a) 49 out of 7,500 neoplasms associated with *Cysticercus fasciolaris* in rats' livers were bone-forming tumours. They varied from benign to malignant growths. The latent period was extremely variable. 0·1% benzpyrene in paraffin proved much more potent in inducing bone-forming neoplasms.

R.T.L.

## 142—Report. Northern Counties Animal Diseases Research Fund.

- a. STEWART, W. L., 1945.—“Research work into sheep and lamb diseases.” 11th Report, 37 pp.

(142a) The 1943 trials carried out by Lyle Stewart in the Northern English counties were designed to obtain precise evidence on the best time to start dosing lambs with phenothiazine and mineral solution and the best interval to allow between the mineral dosing. The best effects were obtained when combined treatment was commenced in June. No significant difference could be detected between dosing at fortnightly and at monthly intervals. The average liveweight gain per lamb attributed to treatment was 3 lb. The 1944 trials designed to assess the effects of different minerals have not yet been analysed statistically.

R.T.L.

## 143—Revista Brasileira de Biologia.

- a. PINTO, C. & FIRMATO DE ALMEIDA, A., 1945.—“Penetração das cercárias de *Schistosoma mansoni* na pele de *Canis familiaris* e do homem.” 5 (2), 219–229. [English summary pp. 228–229.]
- b. NORONHA PÉRES, J. & PENNA SOBRINHO, O., 1945.—“Sobre um novo antígeno de *Eurytrema coelomaticum* para diagnóstico da esquistosomose de Manson.” 5 (3), 413–418. [English summary p. 417.]

(143a) Two puppies nearly a month old were experimentally infected with *Schistosoma mansoni*. Eggs containing miracidia appeared in the faeces 79 and 81 days after cercariae were applied to the skin of the abdomen. The passage of the cercariae through the stratum corneum and stratum malpighi and through a hair follicle with associated lysis of the cells and picnosis of their nuclei are beautifully illustrated.

R.T.L.

(143b) Noronha Péres & Penna Sobrinho have used an antigen extracted from *Eurytrema coelomaticum* in the diagnosis of *Schistosoma mansoni*. Using the intradermal test, the antigen was 96% efficient with infected patients though 6% of apparently uninfected patients also gave positives. In the complement fixation test, a watery solution of the antigen gave 86% positives among known carriers.

P.A.C.

## 144—Revista del Instituto de Salubridad y Enfermedades Tropicales. México.

- a. MAZZOTTI, L., 1945.—“Investigación sobre oxiuriasis en 1120 niños residentes en regiones tropicales de México.” 6 (1), 37–40.
- b. VARGAS, L., 1945.—“Notas sobre la oncocerciasis. I. Consideraciones sobre la población de simúlidos adultos.” 6 (1), 51–59.
- c. VARGAS, L., 1945.—“Notas sobre la oncocerciasis. II. El factor luz y los simúlidos adultos.” 6 (1), 61–66.
- d. VARGAS, L., 1945.—“Notas sobre la oncocerciasis. III. Algunos factores que afectan la fijación de las larvas de simúlidos.” 6 (1), 67–70.
- e. MAZZOTTI, L., 1945.—“Presencia de huevecillos de varios helmintos, diferentes del *E. vermicularis*, en la región perianal de individuos examinados en México, para investigar oxiuriasis.” 6 (2), 131–135. [English summary p. 134.]

(144a) Using Graham's technique, Mazzotti finds that oxyuriasis occurs less frequently in the tropical regions of Mexico than in the temperate. Children from Chetumal, Huixtla, Mérida and Veracruz gave an average of 13.48% positives, which is a lower figure than the 48.16% obtained from children in Mexico City. Children from two boarding schools returned 67.51% and 48.41% positives compared with 47.32% positives among children of day schools.

P.A.C.

(144b) Vargas has endeavoured to work out some facts of the distribution of species of *Simulium*, vectors of onchocerciasis in Mexico. Light traps are useful for catching the insects but baited human traps give better results. *S. metallicum* is captured more frequently on man during morning hours while *S. callidum* is frequent during evening. Females of the species seem to be captured more readily in yellow light traps than in blue ones, males tending to be attracted by blue light often.

P.A.C.

(144c) Further observations on the simuliid vectors of onchocerciasis in Mexico have shown that they are strongly positively phototropic, being attracted by ultraviolet light, but being rendered motionless by light rays from the other end of the spectrum. Females become fertilized early before feeding and after a meal rest out of the sun and wind. They will not lay their eggs in captivity.

P.A.C.

(144d) Though *Simulium metallicum* and *S. callidum* will only breed in well aerated waters, the larvae are easily dislodged by very swift waters or by sand and debris after which they can be swept away. Larvae which have been attached to the undersurface of leaves and such like receive some protection against water currents and are more likely to complete their development.

P.A.C.



(144e) Examination, by Graham's method, of the perianal area of 2,989 persons living in different localities in Mexico gave helminth eggs, apart from *Oxuris*, in 198, i.e. 6.6%. Of these 96 had eggs of *Ascaris lumbricoides*, 100 *Trichuris trichiura*, 6 hookworm, 26 *Taenia* and 3 *Hymenolepis nana*.  
R.T.L.

#### 145—Revista de Medicina Tropical y Parasitología, Bacteriología, Clínica y Laboratorio.

- a. SOTOLONGO, F., ALFONSO, J. & VALLE ALEMÁN, S. DEL, 1945.—“Inermicapsiferosis. Revisión general en ocasión del estudio de un caso procedente de Santa María del Rosario.” 11 (3/4), 37–40.

(145a) Sotolongo et al. review existing information concerning *Inermicapsifer cubensis* in Cuba, and present a new case in a child of two.  
P.A.C.

#### 146—Revista de la Policlínica Caracas.

- a. VARGAS VARGAS, E. E., 1945.—“La recto-sigmoidoscopia en la bilharziosis mansoni.” 14 (81), 133–153.  
b. SANABRIA, A. & PLANCHART M., A., 1945.—“El factor carencial en la cirrosis hepática y en la miocarditis bilharziana.” 14 (82), 165–197. [English summary p. 194.]

(146b) 78 publications on bilharziasis are cited and the pathogenesis of the clinical forms of the disease discussed in relation to 6 cases, treated by the author, in which there were symptoms of cirrhosis and myocarditis. Very satisfactory results are reported as a result of a nutritive diet rich in protein and vitamins with hepatic extract, choline chloride and mercurial diuretics.  
R.T.L.

#### 147—Revue Suisse de Zoologie.

- a. JOYEUX, C. & BAER, J. G., 1945.—“Morphologie, evolution et position systématique de *Catenotaenia pusilla* (Goeze, 1782) cestode parasite de rongeurs.” 52 (2), 13–51.

(147a) Joyeux & Baer describe the structure of *Catenotaenia pusilla* and record the life-history for the first time. The vector is a tyroglyphid mite, *Glyciphagus domesticus*. Though the cestode has usually been classified with the Taeniidae, because of the arrangement of the gravid uterus, they suggest that it should be incorporated within the Anoplocephalinae. There is an unarmed scolex, the larva (called a “Merocercoid”) has a functional apical sucker which however disappears in the definitive stage, the excretory system is ramified and shows secondary anastomoses and a number of other characters of the segment, together with the vector, all suggest close affinity with the Anoplocephalinae. Finally they consider the other species of the genus, finding only 5 of them are valid: *C. pusilla*, *C. dendritica*, *C. lobata*, *C. oranensis*, *C. geosciuri*. *C. ris* seems to be a synonym of *C. dendritica*, *C. symmetrica* has been previously transferred to the genus *Oochoristica* and they are unable to consider *C. rhombomidis* as the description is not available to them.  
P.A.C.

#### 148—Schweizerische Medizinische Wochenschrift.

- a. CARDIS, F., 1945.—“A propos de l'infiltrat pulmonaire fugace avec éosinophilie sanguine et de son étiologie le plus souvent vermineuse.” 75 (8), 165–170.

(148a) Cardis comprehensively discusses Loeffler's syndrome, definitely associating it with the larval pulmonary migration of *Ascaris*. The lung infiltration is an inflammatory exudate of interstitial origin rather than an anaphylactic oedema; this, and the reported failure to reproduce the syndrome by intradermal injection of *Ascaris* antigen, favour the view that mechanical lesions due to migrating larvae are the causal factor. And the fact that the larvae

become egg-laying adults only after some 70 days, explains the frequent failure to link the syndrome with ascariasis. After preliminary brief descriptions of the symptomatology, radiology, and haematology of the syndrome, Cardis discusses its aetiology and pathogenesis in the light of the recent literature. B.G.P.

#### 149—Science.

- a. LAWTON, A. H., NESS, A. T., BRADY, F. J. & COWIE, D. B., 1945.—“Distribution of radioactive arsenic following intraperitoneal injection of sodium arsenite into cotton rats infected with *Litomosoides carinii*.” 102 (2640), 120-122.
- b. HAAG, J. R., 1945.—“Toxicity of nematode infested Chewings fescue seed.” 102 (2651), 406-407.
- c. WILLIAMS, R. W. & BROWN, H. W., 1945.—“The development of *Litomosoides carinii* filariid parasite of the cotton rat in the tropical rat mite.” 102 (2654), 482-483.

(149a) Lawton et al. injected radioactive arsenic, as sodium arsenite, intraperitoneally into 6 cotton-rats naturally infected with *Litomosoides carinii*, at the rate of 1.6 mg. arsenic per Kg. After 24 hours the rats were killed and 12 tissues (including the worms) were removed, weighed, dried, ground, and the arsenic determined by a Geiger-counter. In 3 rats the arsenic was concentrated most in the worms. Worms were 3rd in order of concentration in 2 more, and 10th in the last rat, which had a chronic fibrous pleuritis (the adult filariid lives in the pleural cavity). Arsenic was far more concentrated in the epidermis than in the dermis, whereas previous work showed that antimony was concentrated in neither; this suggests that trivalent arsenic might be used for *Onchocerca*. The radioactive arsenic was prepared by bombarding the element germanium with deuterons in a cyclotron; it had a half-life of 16 days. B.G.P.

(149b) Haag reports losses among sheep fed on screenings of Chewings fescue grass (*Festuca rubra*, and *F. commutata*) which contained flower galls caused by *Anguina agrostis* [= *Anguillulina agrostis*]. Feeding experiments carried out with rats and chickens showed that these too were killed or seriously affected when fed with food mixed with the screenings and it is suggested that the toxic substance is related to the degree of infestation of nematode galls in the seed. T.G.

(149c) Williams & Brown have found all stages of development of *Litomosoides carinii* of the cotton rat, *Sigmodon hispidus littoralis*, in the mite *Liponyssus bacoti*. R.T.L.

#### 150—Soil Science.

- a. TAM, R. K., 1945.—“The comparative effects of a 50-50 mixture of 1:3 dichloropropene and 1:2 dichloropropane (D-D mixture) and of chloropicrin on nitrification in soil and on the growth of the pineapple plant.” 59 (3), 191-205.

(150a) Tam finds that chloropicrin and, to a less extent, D-D mixture (dichloropropylene and dichloropropane), in addition to their nematicidal effects, have a pronounced effect on the nitrogen nutrition of the pineapple. Thus, at the rate of 200 lb. per acre chloropicrin inhibits soil nitrification for 24 weeks and D-D for 8 weeks, and under these conditions the pineapple uses ammonium nitrogen (from applied ammonium sulphate) instead of nitrate nitrogen, absorbing more total nitrogen and giving rise to a larger plant of a darker green. B.G.P.

#### 151—South African Medical Journal.

- a. CAWSTON, F. G., 1945.—“Some unfamiliar aspects of bilharziasis.” 19 (16), 293.

#### 152—Southern Medical Journal.

- a. COGGESHALL, L. T., 1945.—“The problems of filariasis.” 38 (3), 186-188.

(152a) Filariasis among U.S. marines returned from Pacific islands displays very mild symptoms. Treatment is largely directed towards dispelling fears of sterility and/or elephantiasis. B.G.P.



**153—Stain Technology.**

- a. TAHMISIAN, T. N., 1945.—“A method to eliminate opacity on mounting hookworms.” 20 (1), 26.
- b. WARD, J. W., 1945.—“Preparation of nematodes for permanent microscopic examination.” 20 (3), 99.

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(155a) If livers infected with *Fasciola* in mammalian Ringer's solution are left overnight in a refrigerator almost all the worms migrate into the fluid. If cigarette paper is inserted between the flukes and glass slides when the usual method of fixing them under pressure is adopted complete penetration by the fixative is almost instantaneous. Details are given of the procedure whereby large numbers of flukes can be dealt with rapidly by this method. R.T.L.

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- d. MANTER, H. W. & DEBUS, J. M., 1945.—“Two trematodes from a hibernating bat, *Myotis californicus*.” 64 (4), 297-299.
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(157a) High penetration is effective in revealing calcified cerebral cysticerci. R.T.L.

(157b) About half of a batch of wild cotton-rats received from America showed infection with *Litomosoides carinii*. R.T.L.

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- a. GRUNDY, J. H., 1945.—“A list of Anopheles concerned with transmission of disease in man.” 42 (7), 517-525.
- b. BARTTER, F. C., 1945.—“Note on the distribution of onchocerciasis in Mexico.” 42 (8), 649-650.

(158b) Bartter affirms that there are no grounds for the statement, now appearing in textbooks on tropical diseases and parasitology, that onchocerciasis exists in the State of Guerrero, Mexico. The error has arisen through confusion with the township of Montecristo de Guerrero in the Department of La Libertad in Chiapas where the occurrence of 4,000 cases was reported in 1926. R.T.L.

#### 159—United States Naval Medical Bulletin.

- a. PLATZER, R. F. & LAWLOR, W. K. A., 1945.—“Filariasis in West Indian laborers.” 44 (3), 576-578.

(159a) In 199 out of 33,970 blood smears taken from employees at a naval base in Trinidad, microfilariae, both of the sheathed and unsheathed varieties, were observed. Elephantiasis occurred in 3 cases. There were enlarged glands in 69.8% but these were due to infection of the limbs or to venereal disease. Eosinophilia of 5% or over was present in 43%. There was no instance of chyluria. 75.3% gave positive smears at some time of the day. Only 24.6% had consistently negative day smears. The incidence of other diseases in filarial patients is high. R.T.L.



**160—Veterinary Journal.**

- a. SUMNER, K. C., 1945.—“The eggs of *Fasciola hepatica* in an unusual situation.” 101 (8), 181-184.

(160a) Sumner found operculated eggs measuring  $64\mu$  by  $115\mu$  in scrapings from blackened areas on the abdominal surface of a sheep's diaphragm. By serial sections eggs were also found within the diaphragm, lying in connective tissue. No adults were found, and the liver was not available, but the eggs can be diagnosed as those of *Fasciola hepatica*. B.G.P.

**161—Veterinary Medicine.**

- a. HABERMANN, R. T., 1945.—“Weekly ‘salting’ with phenothiazine to control parasites.” 40 (7), 231-234.

(161a) Habermann has compared a 1 : 7 mixture of phenothiazine and salt with a little grain, offered once a week, with a 1 : 10 mixture permanently available, in order to control gastro-intestinal nematodes in a herd of 14 goats and 28 kids. There was also an untreated control group. He concludes from egg-counts and post-mortem worm counts that, over the 18 months of the experiment, both methods protected from gross parasitism, though egg-counts were more variable in the group salted weekly. The average weekly consumption of phenothiazine was about 4 grammes per goat. B.G.P.

**162—Veterinary Record.**

- a. GIBSON, T. E., 1945.—“The effect of small repeated doses of phenothiazine on strongylid infestation in the horse.” 57 (25), 301-303.  
 b. BRUFORD, J. W. & FINCHAM, I. H., 1945.—“A phenothiazine trial in calves. An investigation into the possible toxicity of phenothiazine for calves, with observations on an unexpected outbreak of acute parasitic gastro-enteritis.” 57 (37), 421-424.  
 c. ROWLANDS, W. T., 1945.—“A few observations on the control of disease in sheep.” 57 (44), 489-491.

(162a) Gibson gave several courses of daily doses of 1 gm. phenothiazine to each of 2 ponies with natural strongyle infections. The ponies were so housed as to preclude reinfection. Egg-counts and larval cultures showed (i) that these small doses produced a fall in the egg-count to very low levels (or to zero) persisting for as much as 35 days after the end of treatment, after which the counts rapidly returned to pre-treatment levels; (ii) that during treatment very low or zero larval counts occur, compared with expectation based on the corresponding egg-counts. It is unlikely that the reappearing egg-count can be ascribed to the arrival in the intestine of previously migrating larvae since in one pony the 3rd course began 36 weeks after the pony was housed. Such doses have a prophylactic value in that few eggs are passed and, of those, few or none are viable. B.G.P.

(162b) From an experiment involving 40 calves, Bruford & Fincham conclude that phenothiazine in doses up to 100 grammes is without toxic effect and, whilst ineffective against immature nematodes thus necessitating repeated dosing, leads to greater progress (judged by weight and by eye) than in untreated controls. Acute nematode disease, provoked by overstocking at a low level of nutrition in a period of rain following drought, was remarkable in that egg-counts gave little clue to the high post-mortem worm-counts, and in that lesions of gastro-enteritis were not found; phenothiazine did not prevent the onset of this disease. Egg- and worm-counts and calf-weights are listed. B.G.P.

(162c) In the course of discussing the control of sheep diseases, Rowlands refers to the relationship between parasitic diseases and deficiencies of trace elements. He also suggests that reseeded pastures may become dangerous since, by their larger sheep-carrying capacity, they may lead to parasitic disease through overstocking. Several outbreaks of acute fascioliasis occurred in Wales last winter and, since this early stage does not yield to carbon tetrachloride, control of the snail intermediary is advocated. One form of the condition called in Welsh “Breid” is due to *Coenurus cerebralis* but has symptoms unlike those of gid; the question is raised whether the fox can carry the adult tapeworm since both foxes and gid cases are on the increase. B.G.P.

## 163—War Medicine.

- a. ANON, 1945.—“Filariasis (*Wuchereria*), with special reference to early stages.” [Official Statements (War Department Technical Bulletin Med. 142).] 7 (6), 377-384.
- b. ANON, 1945.—“Schistosomiasis japonica.” [Official Statements (War Department Technical Bulletin Med. 167).] 7 (6), 397-405.

(163a) The epidemiology, symptomatology, diagnosis, treatment, prophylaxis and prognosis of filariasis are usefully summarized. Two maps illustrate the geographical distribution of *Wuchereria bancrofti* and *W. malayi*. The Bulletin is issued by order of the Chief of Staff of the U.S. Secretary of War. R.T.L.

(163b) This official Bulletin issued by order of the Chief of Staff to the U.S. Secretary of War gives a useful summary of the known facts regarding schistosomiasis japonica in the Far East. R.T.L.

## NON-PERIODICAL LITERATURE

- 164—BERTELLI, J. C. y BERTELLI, L. K. DE, 1945.—“Estudio etiológico de la ‘Podredumbre de las raicillas’ o ‘Tristeza’ de los citros.” Notas Fitopatológicas, Ministerio de Ganadería y Agricultura, Dirección de Agronomía, Montevideo, No. 75, 30 pp.

Bertelli & Bertelli show that the root nematode *Tylenchulus semi-penetrans* may occur on the roots of citrus trees affected by the disease called “Podredumbre de las raicillas” or “Tristeza.” They show that this disease seems to be primarily due to a virus and that the nematode *T. semi-penetrans* and a fungus, *Lasiodiplodia* sp., are secondary agents which may hasten the death of trees already affected with “tristeza.” T.G.

- 165—HYNES, M., 1945.—“Report on investigations on anaemia in the Indian soldier from the Anaemia Investigation Team General Headquarters (India).” New Delhi (Army Pathology Advisory Committee, G.H.Q. India), 59 pp.

Grave anaemia among Indian soldiers was one of the major medical problems of the Assam-Burma front during 1943. It was established that mild anaemia was due chiefly to iron deficiency and that hookworm infection was no more than a precipitating cause of anaemia in the presence of other more fundamental causes. Every recruit received therefore 6 grains of ferrous sulphate daily throughout his training. R.T.L.

## 166—OPINIONS AND DECLARATIONS RENDERED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE.

- a. INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE, 1945.—“Opinion 160. On the status of the names *Anguina* Scopoli, 1777, *Anguillulina* Gervais and van Beneden, 1859, and *Tylenchus* Bastian, 1865 (Class Nematoda).” 2 (30), 291-306.

The document sets out a statement of the case, gives the opinions of the authorities consulted on the matter and then gives the finding of the International Commission on Zoological Nomenclature on the points in dispute. The following is a summary of these findings: “For so long as generic names published by authors using a binary, though not a binominal, system of nomenclature are recognised as complying with the requirements of Article 25 of the International Code, the generic names published by Scopoli in 1777 in his *Introductio ad Historiam naturalem* are to be accepted as available nomenclatorially, but the position will need to be re-examined if later it is decided to reject names published by authors not applying the binominal system. No case has been established for the suspension of the rules for the purpose either of invalidating *Anguina* Scopoli, 1777, and validating *Anguillulina* Gervais & van Beneden, 1859, or of invalidating both *Anguina* Scopoli, 1777, and *Anguillulina* Gervais & van Beneden, 1859 and validating *Tylenchus* Bastian, 1865 (Class Nematoda)”. Much evidently depends on the meaning to be placed on the words “binary nomenclature” and since this is at present *sub judice*, authors may apparently continue to use the names *Anguina*, *Anguillulina* and *Tylenchus* as they desire. T.G.

- 167—STRONG, R. P., 1945.—“Stitt’s diagnosis, prevention and treatment of tropical diseases.” London, 7th edit., Vol. II, pp. 872-1747 + xl.



## 153—Stain Technology.

- a. TAHMISIAN, T. N., 1945.—“A method to eliminate opacity on mounting hookworms.” 20 (1), 26.
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- a. GRUNDY, J. H., 1945.—“A list of Anopheles concerned with transmission of disease in man.” 42 (7), 517-525.
- b. BARTTER, F. C., 1945.—“Note on the distribution of onchocerciasis in Mexico.” 42 (8), 649-650.

(158b) Bartter affirms that there are no grounds for the statement, now appearing in textbooks on tropical diseases and parasitology, that onchocerciasis exists in the State of Guerrero, Mexico. The error has arisen through confusion with the township of Montecristo de Guerrero in the Department of La Libertad in Chiapas where the occurrence of 4,000 cases was reported in 1926. R.T.L.

#### 159—United States Naval Medical Bulletin.

- a. PLATZER, R. F. & LAWLOR, W. K. A., 1945.—“Filariasis in West Indian laborers.” 44 (3), 576-578.

(159a) In 199 out of 33,970 blood smears taken from employees at a naval base in Trinidad, microfilariae, both of the sheathed and unsheathed varieties, were observed. Elephantiasis occurred in 3 cases. There were enlarged glands in 69.8% but these were due to infection of the limbs or to venereal disease. Eosinophilia of 5% or over was present in 43%. There was no instance of chyluria. 75.3% gave positive smears at some time of the day. Only 24.6% had consistently negative day smears. The incidence of other diseases in filarial patients is high. R.T.L.



## 160—Veterinary Journal.

- a. SUMNER, K. C., 1945.—“The eggs of *Fasciola hepatica* in an unusual situation.” 101 (8), 181–184.

(160a) Sumner found operculated eggs measuring  $64\mu$  by  $115\mu$  in scrapings from blackened areas on the abdominal surface of a sheep's diaphragm. By serial sections eggs were also found within the diaphragm, lying in connective tissue. No adults were found, and the liver was not available, but the eggs can be diagnosed as those of *Fasciola hepatica*. B.G.P.

## 161—Veterinary Medicine.

- a. HABERMANN, R. T., 1945.—“Weekly ‘salting’ with phenothiazine to control parasites.” 40 (7), 231–234.

(161a) Habermann has compared a 1 : 7 mixture of phenothiazine and salt with a little grain, offered once a week, with a 1 : 10 mixture permanently available, in order to control gastro-intestinal nematodes in a herd of 14 goats and 28 kids. There was also an untreated control group. He concludes from egg-counts and post-mortem worm counts that, over the 18 months of the experiment, both methods protected from gross parasitism, though egg-counts were more variable in the group salted weekly. The average weekly consumption of phenothiazine was about 4 grammes per goat. B.G.P.

## 162—Veterinary Record.

- a. GIBSON, T. E., 1945.—“The effect of small repeated doses of phenothiazine on strongylid infestation in the horse.” 57 (25), 301–303.  
b. BRUFORD, J. W. & FINCHAM, I. H., 1945.—“A phenothiazine trial in calves. An investigation into the possible toxicity of phenothiazine for calves, with observations on an unexpected outbreak of acute parasitic gastro-enteritis.” 57 (37), 421–424.  
c. ROWLANDS, W. T., 1945.—“A few observations on the control of disease in sheep.” 57 (44), 489–491.

(162a) Gibson gave several courses of daily doses of 1 gm. phenothiazine to each of 2 ponies with natural strongyle infections. The ponies were so housed as to preclude reinfection. Egg-counts and larval cultures showed (i) that these small doses produced a fall in the egg-count to very low levels (or to zero) persisting for as much as 35 days after the end of treatment, after which the counts rapidly returned to pre-treatment levels; (ii) that during treatment very low or zero larval counts occur, compared with expectation based on the corresponding egg-counts. It is unlikely that the reappearing egg-count can be ascribed to the arrival in the intestine of previously migrating larvae since in one pony the 3rd course began 36 weeks after the pony was housed. Such doses have a prophylactic value in that few eggs are passed and, of those, few or none are viable. B.G.P.

(162b) From an experiment involving 40 calves, Bruford & Fincham conclude that phenothiazine in doses up to 100 grammes is without toxic effect and, whilst ineffective against immature nematodes thus necessitating repeated dosing, leads to greater progress (judged by weight and by eye) than in untreated controls. Acute nematode disease, provoked by overstocking at a low level of nutrition in a period of rain following drought, was remarkable in that egg-counts gave little clue to the high post-mortem worm-counts, and in that lesions of gastro-enteritis were not found; phenothiazine did not prevent the onset of this disease. Egg- and worm-counts and calf-weights are listed. B.G.P.

(162c) In the course of discussing the control of sheep diseases, Rowlands refers to the relationship between parasitic diseases and deficiencies of trace elements. He also suggests that reseeded pastures may become dangerous since, by their larger sheep-carrying capacity, they may lead to parasitic disease through overstocking. Several outbreaks of acute fascioliasis occurred in Wales last winter and, since this early stage does not yield to carbon tetrachloride, control of the snail intermediary is advocated. One form of the condition called in Welsh “Breid” is due to *Coenurus cerebralis* but has symptoms unlike those of gid; the question is raised whether the fox can carry the adult tapeworm since both foxes and gid cases are on the increase. B.G.P.



## 163—War Medicine.

- a. ANON, 1945.—“Filariasis (*Wuchereria*), with special reference to early stages.” [Official Statements (War Department Technical Bulletin Med. 142).] 7 (6), 377-384.
- b. ANON, 1945.—“Schistosomiasis japonica.” [Official Statements (War Department Technical Bulletin Med. 167).] 7 (6), 397-405.

(163a) The epidemiology, symptomatology, diagnosis, treatment, prophylaxis and prognosis of filariasis are usefully summarized. Two maps illustrate the geographical distribution of *Wuchereria bancrofti* and *W. malayi*. The Bulletin is issued by order of the Chief of Staff of the U.S. Secretary of War. R.T.L.

(163b) This official Bulletin issued by order of the Chief of Staff to the U.S. Secretary of War gives a useful summary of the known facts regarding schistosomiasis japonica in the Far East. R.T.L.

## NON-PERIODICAL LITERATURE

- 164—BERTELLI, J. C. y BERTELLI, L. K. DE, 1945.—“Estudio etiológico de la ‘Podredumbre de las raicillas’ o ‘Tristeza’ de los citros.” Notas Fitopatológicas, Ministerio de Ganadería y Agricultura, Dirección de Agronomía, Montevideo, No. 75, 30 pp.

Bertelli & Bertelli show that the root nematode *Tylenchulus semi-penetrans* may occur on the roots of citrus trees affected by the disease called “Podredumbre de las raicillas” or “Tristeza.” They show that this disease seems to be primarily due to a virus and that the nematode *T. semi-penetrans* and a fungus, *Lasiodiplodia* sp., are secondary agents which may hasten the death of trees already affected with “tristeza.” T.G.

- 165—HYNES, M., 1945.—“Report on investigations on anaemia in the Indian soldier from the Anaemia Investigation Team General Headquarters (India).” New Delhi (Army Pathology Advisory Committee, G.H.Q. India), 59 pp.

Grave anaemia among Indian soldiers was one of the major medical problems of the Assam-Burma front during 1943. It was established that mild anaemia was due chiefly to iron deficiency and that hookworm infection was no more than a precipitating cause of anaemia in the presence of other more fundamental causes. Every recruit received therefore 6 grains of ferrous sulphate daily throughout his training. R.T.L.

## 166—OPINIONS AND DECLARATIONS RENDERED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE.

- a. INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE, 1945.—“Opinion 160. On the status of the names *Anguina* Scopoli, 1777, *Anguillulina* Gervais and van Beneden, 1859, and *Tylenchus* Bastian, 1865 (Class Nematoda).” 2 (30), 291-306.

The document sets out a statement of the case, gives the opinions of the authorities consulted on the matter and then gives the finding of the International Commission on Zoological Nomenclature on the points in dispute. The following is a summary of these findings: “For so long as generic names published by authors using a binary, though not a binominal, system of nomenclature are recognised as complying with the requirements of Article 25 of the International Code, the generic names published by Scopoli in 1777 in his *Introductio ad Historiam naturalem* are to be accepted as available nomenclatorially, but the position will need to be re-examined if later it is decided to reject names published by authors not applying the binominal system. No case has been established for the suspension of the rules for the purpose either of invalidating *Anguina* Scopoli, 1777, and validating *Anguillulina* Gervais & van Beneden, 1859, or of invalidating both *Anguina* Scopoli, 1777, and *Anguillulina* Gervais & van Beneden, 1859 and validating *Tylenchus* Bastian, 1865 (Class Nematoda)”. Much evidently depends on the meaning to be placed on the words “binary nomenclature” and since this is at present *sub judice*, authors may apparently continue to use the names *Anguina*, *Anguillulina* and *Tylenchus* as they desire. T.G.

- 167—STRONG, R. P., 1945.—“Stitt's diagnosis, prevention and treatment of tropical diseases.” London, 7th edit., Vol. II, pp. 872-1747+xl.